UNIVERSITY OF AGDER

NATURAL RESOURCE FUNDS AS MECHANISMS FOR AVOIDING THE RESOURCE CURSE

A COMPARATIVE STUDY OF KAZAKHSTAN, AZERBAIJAN AND NORWAY

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This master's thesis is carried out as a part of the education at the University of Agder and is therefore approved as a part of this education. However, this does not imply that the University answers for the methods that are used or the conclusions that are drawn.

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ABSTRACT

Studies show that countries blessed with an abundance of natural resources such as oil tend to have less economic growth and a less fortunate development than countries with fewer natural resources. This master thesis is motivated by the fact that there are relatively few studies conducted on a natural resource funds' roles in addressing the "resource curse" and its impact upon the society. The thesis will use a comparative study of Kazakhstan, Azerbaijan and Norway to investigate the use of resource funds related to resource curse avoidance. A special focus is set on the funds' budget control and transparency. Variables used to assess the resource curse exposure are oil dependence, per capita GDP growth, and control of corruption. We suggest that funds with a strong commitment to initiatives that aim to enhance transparency contribute to avoiding the resource curse in the long run, and that an increased ability to save and smooth expenditure will also help in avoiding the resource curse. Recommendations are to implement rule-based operations of the funds and stricter policies for increasing transparency and for reducing expenditure volatility.

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ABBREVIATIONS AND ACRONYMS

ACG	Azeri-Chirag Guneshli
AZN	Azerbaijan New Manat
BPD	Barrels per day
BTC	Baku–Tbilisi–Ceyhan
CPI	Corruption Perception Index
EIA	Energy Information Agency
EITI	Extractive Industries Transparency Initiative
GAPP	Generally Accepted Principles and Practices
GDP	Gross Domestic Product
GPF	Norwegian Government Pension Fund
NGPFG	Norwegian Global Pension Fund - Global
GPFN	Norwegian Government Pension Fund – Norway
HDI	Human Development Index
IFI	International Financial Institutions
IFSWF	International Forum of Sovereign Wealth Fund
IMF	International Monetary Fund
IWG	International Working Group
KZT	Kazakhstan Tenge
NBIM	Norges Bank Investment Management
NCS	Norwegian Continental Shelf
NFRK	National Fund of the Republic of Kazakhstan
NOC	National Oil Company
NOK	Norwegian Kroner
NRF	Natural Resource Fund
OCCRP	Organized Crime and Corruption Reporting Project
OECD	Organization for Economic Co-operation and Development
PSA	Production Sharing Agreements
PwC	PricewaterhouseCoopers
RF	Resource Fund
SDFI	State Direct Financial Interest
SOFAZ	State Oil Fund of Azerbaijan
SWF	Sovereign Wealth Fund
USD	United States Dollar
WTO	World Trade Organization

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1. INTRODUCTION

A reasonable economic assumption is that countries with resource abundance would induce economic growth by attracting foreign investors and customers and by increasing the country's exports. Natural resource abundance increases revenues that could be used to finance development and growth in the country. However, many empirical analyses on oil exporting countries based on historical GDP data have demonstrated that economic growth and natural resource abundance are negatively correlated (Sachs and Warner 1995; 1997; 2001, Humphreys and Sandbu 2007; Bacon and Tordo 2006; Auty 2001). This phenomenon is known as the *resource curse*. Oil can have many negative effects on the economy. Ogunleye (2008, p 169) describes this relation as following:

"Oil raises expectations and dramatically increases public spending based on unrealistic revenue projections, encourages rent-seeking, fans inflation, hampers growth, leads to decline in non-oil sectors such as agriculture and manufacturing, thereby replacing more stable and sustainable revenue streams, and thus exacerbating the problem of transparency, accountability and corruption"

There are, however, a few countries that have managed to avoid this paradox. Numerous theories explain how the resource curse can be avoided (Humphreys and Sandbu 2007; Tsani 2013, Wagner and Elder 2004). Some have changed the incentives reflected to choices of decision-makers regarding natural resources, some have invested in capital that promotes sustainable development, while others have established natural resource funds (NRF) to tackle the issue of the resource curse. Humphreys and Sandbu (2007, p. 223**)** state that:

"In countries with low levels of transparency in general, the occasion of setting up an NRF may provide an opportunity to create a sphere with better practice than the rest of the public sector. Indeed a successfully transparent NRF could have spillover effects both on the government's technical capacity and on the pressure on it to increase transparency elsewhere."

However, natural resource funds differ in titles, goals and rules, as well as ownership, underlying assets, degree of dependence and operational aspects, which in turn can be determinant of the relative success of the funds.

This thesis will use a comparative study to investigate the use of resource funds within the context of the national resource curse avoidance by comparing the resource funds of Kazakhstan, Azerbaijan and Norway. Our focus will be on budget control and transparency.

Research questions we aim to answer are:

1) What are the characteristics of the resource funds of Norway, Kazakhstan, and Azerbaijan?
2) What characteristics of the funds explain the funds' budget control?
3) What characteristics explain the funds' level of transparency?
4) Are Kazakhstan, Azerbaijan and Norway resource cursed?
5) How do the funds' budget control and various levels of transparency contribute to resource curse avoidance in their respective countries?

The present thesis is divided into the following chapters: Chapter 2 offers a general presentation of the three countries Kazakhstan, Azerbaijan and Norway. This chapter discusses the three countries' oil sector and institutions, followed by a comparison of institutional measures. Chapter 3 presents former studies on the phenomenon "the resource curse" and natural resource funds. Then, we describe the theoretical framework used, focusing primarily on budget control and transparency. To finish this chapter, we present theoretical framework and propositions. In Chapter 4 the research design and methodology is offered, along with discussion of the sources and methods of analysis applied in this study. Chapter 5 presents our findings from the three funds – the National Fund of the Republic of Kazakhstan (NFRK), the State Oil Fund of the Republic of Azerbaijan and the Global Pension Fund – Global. Among the findings are the funds' goals and objectives, assets, management, rules regarding deposits and withdrawals, and investment strategy. In addition, we present findings regarding the funds' budget control and the funds' degree of transparency. Chapter 6 analyzes similarities and differences between the funds and subsequently the funds' effect upon avoiding the resource curse. Finally, Chapter 7 offers some concluding remarks on the basis of the conducted research, and present limitations of the thesis, policy recommendations and prospects for further research.

2. COUNTRY PROFILES

This chapter will give an outline of the history and conditions in the countries Kazakhstan, Azerbaijan and Norway. Following the presentation of the three countries, a table comparing institutional and economic measures of the respective countries will be presented.

2.1. REPUBLIC OF KAZAKHSTAN

Kazakhstan is a republic, with an authoritarian presidential rule, located in Central Asia, with a smaller part west of the Ural River located in Eastern Europe. Kazakhstan is the 9th largest country in the world in terms of area, and the largest landlocked country. With a population of 17.7 million and its large geographical area, the country has a very low population density. Kazakhstan gained its independence in 1991 after almost six decades under Soviet rule. Nursultan Nazarbayev is the first and, to date, only President of the Republic of Kazakhstan. Parliamentary and presidential elections have come to criticism for not being fair and transparent.

Kazakhstan's GDP for 2012 is USD 201.680 billion and with a GDP per capita (PPP) of USD 13,672, it is ranked 69 out of 180 countries by the World Bank (2013a). According to the Human Development Index (HDI), Kazakhstan is ranked at 69, with a score of 0.754. The GINI index, which is a measure of income dispersion, by CIA (2014) ranks Kazakhstan as the 18th most equal country in the world. However, the Corruption Perception Index ranks Kazakhstan as number 133 out of 177 countries.

Kazakhstan possesses great oil reserves, with 30 billion barrels of proven reserves according to BP (2013). Extractive industries have been, and will continue to be, important for economic growth in Kazakhstan. According to the World Bank (2014), Kazakhstan had an annual GDP growth of around 8-10 percent from 2000 to 2007, but experienced a sharp downturn during the economic crisis in 2008 and 2009. However, Kazakhstan has recovered well with an annual growth of 7.5 percent and 5 percent in 2011 and 2012, respectively. Because Kazakhstan is landlocked it is dependent on its neighbors to export goods. Kazakhstan has unique distribution challenges when it comes to oil because it cannot rely on direct shipping

of crude oil to worldwide markets. Kazakhstan has pipelines that lead to Russia, China, and via Azerbaijan to Turkey (CNN 2012). From Kazakhstan's point of view, it is pivotal to balance its distribution, due to both political and economic factors in the neighboring markets. Other challenges include the mere remoteness of the inland, and a tough climate. For instance, average temperature in January drops below -16°C for the central and northern parts of the country.

The history of Kazakhstan petroleum dates over 100 years back when the first discovery of oil was produced in 1899 in Karashungul (EnglishRussia.com 2011). Ever since Kazakhstan first found the "black gold", many discoveries of oil deposits have been made, most notably in the 1950s and 1970s. Today, the country's oil production is dominated by two fields: Tengiz and Karachaganak. These two fields account for approximately half of the total oil output (EIA 2013b). The Kashagan field in the Caspian Sea, discovered in 2000, is expected to play a crucial part for the country's oil production in the long-term. Kazakhstan's oil production is both onshore and offshore, although offshore fields in the Caspian Sea have become increasingly imperative in the recent two decades. In 2013, Kazakhstan has an estimated oil production of 1.64 million bpd (EIA 2013b). This makes them the second largest producer of oil in Central Asia, behind Russia. Hydrocarbon in Kazakhstan is forecasted to continue to be extracted for another 65 years (Lücke 2010).

KAZAKHSTANI SOVEREIGN WEALTH FUNDS

There are three SWFs that can be mentioned when discussing Kazakhstan resource wealth management. For the purpose of this paper we need to clarify the difference between these SWFs.

TABLE 1: FUNDS OF KAZAKHSTAN

Fund Name	**Establishment**	**Financial Origin**	**Assets (USD billions)**	**Entity Structure**
National fund of Kazakhstan	2000	Oil	68,9	Fund
Samruk-Kazyna	2008	Non-commodity	77,5	Joint Stock Company

National Investment Corporation	2012	Oil	20	Joint Stock Company

Source: Sovereign Wealth Fund Institute (2014). Value of assets as of February 2014

THE NATIONAL FUND OF THE REPUBLIC OF KAZAKHSTAN

The National Fund of the Republic of Kazakhstan (NFRK) was established in August 2000. Its main purpose is to serve as stabilization fund against price fluctuations of oil, gas and metals. Today, it serves both as stabilization and a savings fund. In addition, the fund serves as tool for social and economic sustainable development for Kazakhstan.

The fund is owned by the Ministry of Finance and managed by the National Bank of Kazakhstan. The fund is often referred to as the national fund, or simply, the oil fund. The fund is monitored and controlled by the National Bank of the Republic of Kazakhstan, where both investment strategies and external managers are selected by the bank (SWT institute, 2014). The latest reported figures by SWF Institute show that the fund has assets worth USD 68.9 billion. The *National Fund of the Republic of Kazakhstan* (from here on the *NFRK*) will be the focus of this thesis and will be described in more detail later.

SAMRUK-KAZYNA

Samruk-Kazyna is, strictly speaking, not a natural resource fund, but it is the owner of many important national companies, including the state oil and gas company KazMunayGas. In addition, the fund wholly or partly owns Kazakh companies as the national rail and postal service, the state uranium company Kazatomprom, Air Astana, and numerous financial groups. The state is the sole shareholder of the fund. Although the fund owns shares in the national oil and gas company, the main origin of revenues stem from non-commodity related operations (SWF Institute 2014). Samruk-Kazyna is otherwise unrelated to the NFRK (Kemme 2011).

Following our definition of resource funds in the previous section of this thesis we choose *not* to focus on Samruk-Kazyna for two reasons: I) its assets are mainly originated from non-commodity operations, and II) the entity structure is not a fund per se, but a joint stock

company.

NATIONAL INVESTMENT CORPORATION

The National Investment Corporation officially started its operations in October 2012 (SWF Institute 2014). This newly established company is concerned with the stability and profitability of the international reserves of Kazakhstan. It controls around USD 20 billion worth of assets as of February 2014. The National Investment Corporation invests in cash, stocks and bonds, but also in other alternatives like private equity, hedge funds, real estate, and infrastructure (SWF Institute 2014). According to the SWF Institute (2014), the National Investment Corporation is "a financial organization specialized on managing part of foreign exchange reserves of the National Bank of the Republic of Kazakhstan and of the National Fund of the Republic of Kazakhstan". Hence, this organization can be regarded as an integrated part of the Kazakhstan National Fund from 2012.

Following our definition of resource funds in the previous section of this thesis we choose *not* to focus on the *National Investment Corporation* for three reasons: I) the entity structure is not a fund per se, but a joint stock company, II) it also includes foreign reserves that are independent of the NFRK, in other words it also invests in capital that do not originate from oil and gas operations (Kemme 2011), and III) it is a newly started company, and naturally there is little available information about it.

2.2. REPUBLIC OF AZERBAIJAN

The Republic of Azerbaijan is an upper-middle income country located in Central Asia. With a population of 9.35 million people, Azerbaijan is the largest country in the Caucasus region. Similar to Kazakhstan, Azerbaijan was a former Soviet state which received its independence in 1991. The country is a unitary dominant-party presidential republic, where the President of Azerbaijan acts as the head of state, while the Prime Minister acts as the head of government. The term length for presidency is five years, and the inaugural holder is Ilham Aliyev. Oil and gas export is central to the economy of Azerbaijan as oil and gas exports account for more than 90 percent of total exports and 45 percent of total GDP (IMF 2013b).

The GDP of Azerbaijan is USD 66.60 billion as of 2012, with a GDP per capita (PPP) of USD 10,127, ranking the country at 83 out of 180 countries by the World Bank (2013a). Despite being a novel independent nation, Azerbaijan has managed to develop relatively well. Azerbaijan scores 0.734 on the human development index (HDI), ranking at 82 out of 186 (United Nations Development Program 2012). This is considered high, compared to other Central Asian countries but is lower than most Eastern European countries.

Despite the progress of Azerbaijan, corruption in Azerbaijan is evident and widespread, where the government for instance has been accused of authoritarianism and human rights abuses. Corruption in Azerbaijan can be traced back to the country's post-independence period, when the current President's father, Heydar Aliyev, became the President in 1993. During Heydar Aliyev's reign, there were limited reforms, and sustained development was prevented as a result of extreme levels of corruption, election rigging, torture of political opponents and nepotism[1] (New Internationalist Magazine 2013). Nepotism is present following Heydar Aliyev's death, when his son was elected in another controversial election in 2003. Following his father's reign, corruption and inequality did not cease. Protests were stifled, activists who fought for democracy continued to be imprisoned, while freedom of press has been clamped down by harassing, attacking and even arresting reporters (Gogia 2013). Organized Crime and Corruption Reporting Project (OCCRP) presented in 2013 extensive reports and "well-documented evidence" that the family Aliyev has been systematically grasping shares of various profitable businesses as well as many unknown and secret businesses for many years. As a result, the (OCCRP) has awarded Ilham Aliyev the honor of corruption's "person of the year" (Coalson 2013).

As previously mentioned, oil and gas reserves are a major contribution to the economy of Azerbaijan. As Azerbaijan is highly dependent on oil, favorable oil prices have aided in the country's growth in GDP. In the period 2004-2007, Azerbaijan experienced an annual GDP growth of an average of 23.75 percent, but following the financial crisis of 2008, Azerbaijan faced a recession with a GDP growth rate of 9, 5 and 0 percent in 2009, 2010 and 2011, respectively. This only emphasizes the importance of having a mechanism like a sovereign wealth fund for avoiding potential setbacks due to fluctuations in oil prices. This aspect will be fully addressed and analyzed later in the thesis.

[1] Nepotism is defined as favoritism granted in politics or business to relatives

Azerbaijan is among the oldest oil producers in the world and is regarded as the birthplace of the oil industry. The discovery of oil in Azerbaijan can be dated back as far as 1846 in Bibi-Heybat. It was by 1901 one of the largest oil producing countries, supplying more than half of the world's oil (Mir-Babayev, 2002). Azerbaijan achieved a new milestone in 1949: The first offshore oil field was erected in Neft Dashlary, where oil is still being produced today. As a result of the technological revolution in terms of oil drilling, several large oil and gas fields were discovered in the19 60s and 1970s, including one of the largest offshore fields "Sangachal-deniz". The largest offshore field in the Caspian Sea is Azeri-Chirag Guneshli (ACG), which account for more than 80 percent of Azerbaijan's total oil output in 2012 (EIA 2013a).

Following Azerbaijan's independence, a series of production-sharing agreements (PSA) were signed, allowing foreign participation in Azerbaijan's oil sectors, most notably in the Azeri-Chirag-Guneshli (ACG) sector. According to IHS Cambridge Energy Research Associates, an advisor to international energy companies, governments and financial institutions, the ACG oil field is the third largest in the world (UPI 2009), producing roughly 850,000 bpd. State Oil Company of Azerbaijan Republic (SOCAR) is responsible for exploration and production of oil and gas in Azerbaijan. However, SOCAR only produce 20 percent of the country's output while international oil companies like BP, Chevron and Statoil, account for the remaining 80 percent. Azerbaijan has a proven oil reserve of 7 million barrels in January 2013 according to Oil and Gas Journal (in EIA 2013a). Oil production is approximately 872,000 bpd, making Azerbaijan among the 20 largest oil exporters in the world in 2012 (BP 2013). However, this raises concern as IMF expects that oil reserves of Azerbaijan are depleted in 15-20 years (Lücke 2010).

The oil in Azerbaijan is exported through three pipelines: Baku-Supsa pipeline (Western Route Export Pipeline), Baku-Novorossiysk (Northern Route Export Pipeline), and most importantly the Baku-Tbilisi-Ceyhan pipeline (BTC), exporting about 80 percent of oil through a 1,100 mile long pipeline through Azerbaijan, Georgia, and Turkey, to the Mediterranean port of Ceyhan. From there, the oil is shipped to global markets (EIA 2013a). Oil revenues from the BTC pipeline have also made Azerbaijan the fastest growing economy worldwide in the period between 2005 and 2007 (Waal 2013). It thus unlocks the country's

oil sector potential by acting as one of Caspian region's most important strategic export openings to the West.

Azerbaijan realized in the early stages the importance to efficiently manage oil revenues generated from the many oil fields. Hence the State Oil Fund of Azerbaijan (SOFAZ) was founded by the Decree № 240 of Heydar Aliyev in December 1999 and approved by the Presidential Decree № 434 in December 2000.). The latest reported figures by SWF Institute show that the fund has assets worth USD 34.1 billion.

2.3. KINGDOM OF NORWAY

Norway is a well-developed country located in Northern Europe. It is the second least densely populated country in Europe, with a population of 5.1 million (SSB 2014).
Norway is a unitary constitutional monarchy with a parliamentary democracy. As defined by the Constitution, the power is divided between the legislative, executive and judicial branches of government. The King is vested with the executive power while the legislative power is vested in both the government and the Parliament of Norway. The King of Norway, Harald V, acts as the head of state, while the newly appointed Prime Minister, Erna Solberg, acts as head of government.

The strength of institutions and the economy of Norway can be traced back to the Age of Bureaucracy in the period 1814-1884. The Eidsvoll Constitution of 1814 introduced a greater authority to the Storting, Norway's parliament. This meant that the Storting had greater authority than any other parliamentary bodies in the world besides the United States[2]. The constitution introduced the separation of powers in which the King retained executive power, while the legislative power to impose taxes and budget were within the authority of the Storting (ibid). During this age, civil service became liberal, trade regulations were abolished, and tariffs were reduced. Before long after these incidents, which led to a decision that slowly made Norway a free-trade country, a great expansion of merchant shipping occurred between 1850 and 1880. This expansion gave the most powerful boost to the economy of Norway, which subsequently laid the basis for industrialization. By the end of the 19th century, Norway

[2] For more detail, visit the following link.
http://www.britannica.com/EBchecked/topic/420178/Norway/39314/Population-trade-and-industry#toc39316

possessed the third largest merchant navy in the world, after the United Kingdom and the United States.

The economy of Norway has, since its full independence in 1905, been disturbed by various events. Following World War II, Norway reconstructed the economy by establishing strict social democratic rule and centralized economic planning. The period following World War II is often called the *Golden Era* with the introduction of the *Nordic Model* that focused heavily on large public sector, social security, and evenly-distributed wealth (Grytten 2008). Today, the Norwegian economy is characterized as a mixed economy, an economic system in which both the private and state sector direct the economy, or in other words, a system that features characteristics of both capitalism and socialism (Investopedia 2014). Most mixed economies can be described as market economies, with strong regulatory supervision. Unlike free-market economy, the government has substantial indirect influence over the economy, through fiscal and monetary policies.

The petroleum activities of Norway have contributed significantly to its economic growth and development. Norway's GDP is USD 499.67 billion, while GDP per capita (PPP) is USD 66,141, ranking third out of 180 countries as of 2012 (World Bank 2013a). Norway scored a 22.3 on the GINI index[3], while Norway ranks seventh with regards to Corruption Perception Index (Transparency Index 2013). The standards of living in Norway is among the highest, where Norway has maintained first place from 2001-2006, then reclaiming the position in 2009 and 2010 in the HDI[4](Human Development Reports, 2013). Norway still remains the country with the highest HDI score as of 2012, with a score of 0.955. Along with Sweden and Finland, Norway is ranked as one of the most well-functioning and stable countries today (Failed States Index 2013).

Norway's prominent economy today can be traced back to the discovery of petroleum in 1969 by Phillips Petroleum Company. Prior to the discovery of petroleum, the Norwegian government proclaimed sovereignty over the Norwegian Continental Shelf (NCS), declaring ownership over natural resources on the NCS and that only the government is authorized to award licenses for exploration and production (Ministry of Petroleum and Energy 2013a).

[3] Ranks countries by their levels of equality, where 100 implies lowest level of equality and 0 implies highest level of equality

[4] HDI is a composite statistic of life expectancy, education, and income indices used to rank countries into four tiers of human development

Production from the fields started on June 15, 1971, with several major discoveries the following years (Ministry of Petroleum and Energy 2013a). The Norwegian State Oil Company, Statoil, was formed in 1972 for the purpose of managing the oil discovered in the NCS. Statoil has, since its inception, been a major contributor to the modernization of Norwegian oil industry. With the assistance of Statoil, Norway has throughout the years created values in excess of NOK 12,000 billion in current terms (Ministry of Petroleum and Energy 2013a), and by producing 1.916 million bpd, makes Norway Europe's largest oil producer. According to British Petroleum (BP), Norway had 7.5 billion barrels of proven oil reserves as of 2012, the largest reserve in Western Europe. Despite that Norway's petroleum production has been declining since 2001 (Ministry of Petroleum and Energy 2013a)), Norway continually seeks to improve field development and infrastructure as well as exploration, before the expected oil production depletion in 2018 (Lücke 2010). This is evident as Norway's investments in these areas amounted to over NOK 175 billion, which is approximately 29 percent of Norway's total real investments (Ministry of Petroleum and Energy 2013a).

Norway has received praise and commendation for its administrative system in the oil sector. The functions of the oil sector are divided among three state-controlled institutions, each with its own distinct role (Thurber et al. 2011). The first entity is NOC Statoil, which is the commercial body, carrying out operations both in Norway and abroad. The second entity is the Ministry of Petroleum and Energy, which is the policy making body. The role of the Ministry is to make plans to achieve various goals set by the Ministry and political leaders and to oversee the crucial licensing process. Third is the regulatory and technical advisory agency, the Norwegian Petroleum Directorate. The Directorate compiles data on all activities on the NCS, collect fees from oil operators, and it gives advices to the Ministry and regulates hydrocarbon activities related to matters such as commercial, policy and the regulatory.

The sovereign wealth fund of Norway is comprised of two separate funds: Norwegian Government Pension Fund – Global (NGPFG) which holds the flow of net receipts from petroleum reserves, and Government Pension Fund – Norway (GPFN) which holds the assets and liabilities of the government's National Insurance Scheme. However we will focus only on the former. The natural resource fund (NRF) of Norway was established in 1990 under the name "the Petroleum Fund of Norway" before it was changed to Norwegian Government

Pension Fund – Global in 2006. The latest reported figures by SWF Institute (2014) show that the fund has assets worth USD 838 billion.

2.4 KEY INDICATORS OF THE COUNTRIES

The following section will present a comparison of key indicators of the three countries.

TABLE 2: KEY MEASURES OF THE COUNTRIES

Key Indicators (as of 2012)	**Kazakhstan**	**Azerbaijan**	**Norway**
Government[5]	Republic; authoritarian presidential rule, with little power outside the executive branch.	Unitary constitutional republic. / Unitary dominant-party presidential republic	Unitary parliamentary constitutional monarchy.
Economic system	Mixed economic system	Mixed economic system *Attempts on instituting market-based reforms but involves heavy government planning	Mixed open economy[6]
Population	17.7 million	9.35 million	5.1 million
GDP per capita (PPP adjusted $)[7]	13,672	10,127	66,141
CPI **Rank:** **Score:**	 133rd Score: 28	 139th Score: 27	 7th Score: 85
HDI **Rank:** **Score:**	 69th 0.754	 82nd 0.734	 1st 0.9555
Oil Production (million barrels per day)[8]	1.728	0.872	1.916

[5] CIA Factbook
[6] capitalism and socialism
[7] World Bank (2013a): adjusted to purchasing power parity
[8] Source: BP (2013)

Total exports (USD million)	92,100	31,579	203,300
Of which oil exports (USD million)[9]	56,400	29,600	103,900
Share of oil export in total export	61.24%	93.73%	51.1%
Oil Reserves (billion) [10]	30	7	7.5
Expected year of oil production depletion[11]	2029	2075	2018

[9] IMF (2013a, 2013b, 2013c) country reports
[10] Source: BP (2013)
[11] Source: According to forecasts of Lücke (2010)

3. THEORY AND PREVIOUS STUDIES

In this chapter, a selection of relevant studies and theories are presented that will later be used for a comparative discussion of the funds. The chapter offers theories and concepts related to the phenomenon the *resource curse* and natural resource funds, before exploring the dimensions of budget control and transparency. Finally, we describe the relation between the characteristics of a NRF and the resource curse in a theoretical framework followed by propositions.

3.1. PREVIOUS STUDIES

WHAT IS THE RESOURCE CURSE?

The term *resource curse* was first coined by British economist Richard M. Auty in 1993 explaining the phenomenon of how countries with plentiful of resources perform worse economically than countries with scarce resources. Melby (2008), Bacon and Tordo (2006) and Stevens (2003) (in De Medeiros Costa and dos Santos 2013, p 789) described the term *resource curse*, or *paradox of plenty* as:

"*A form of economic decline that can arise from the following conditions: (i) increased real exchange rates in response to income from natural resource exports, depressing other economic sectors (such as agriculture and industry) because of the new flow of resources (a process known as "Dutch Disease"); (ii) an increase in short-term inflation; (iii) reduced domestic consumption capacity resulting from increased commodity prices; (iv) weak controls on public expenditures; (v) increased corruption; and (vi) increased political and economic dependence on the income provided by the production and exporting of natural resources*."

Similar to the previous findings of the resource curse, Collier (2007, p. 23) also finds evidence that a significant part of the resource curse can be explained by a few factors.

"An overvalued exchange rate, high public and private consumption, low or inefficient investment, and to a lesser extent commodity price volatility and slow growth in the services sector explain a substantial part of the curse."

The origin of the resource curse phenomenon can be traced back to 1959 in the Netherlands following the discovery of natural gas in the North Sea. When the Dutch exported large quantities of natural gas, the Dutch currency appreciated, the Dutch manufactures became uncompetitive, followed by a period of deindustrialization and high unemployment. This is known as the Dutch Disease[12].

Corden and Neary (1982) present a traditional economic model, known as the *core model* that describes the Dutch Disease. The model assumes three economic sectors, namely the booming sector, which experiences high export revenues, the lagging sector (for instance agriculture and manufacturing), and the non-tradable goods sector, which is not dependent on world prices. A resource boom affects the economy in two ways: I) the *resource movement effect* where the demand for labor is increased, causing production to shift from the lagging sector to the booming sector, otherwise called direct-deindustrialization; II) the *spending effect* where a resource boom procures extra revenue causing a shift on demand for labor in the non-tradable sector at the expense of the lagging sector, otherwise called indirect-deindustrialization. This causes an increase in real exchange rate. An increased demand for non-traded goods increases their price while the prices in the traded goods cannot change because the prices are set internationally. With a stronger exchange rate than other nations, the nation's commodity exports become more expensive for other countries to buy, which in turn makes the manufacturing sector less competitive. Consequently this will attract labor and capital from manufacturing sector to the natural resource sector. This can be detrimental for a country because the manufacturing sector is a complex sector, consisting of more abundant job opportunities than the natural resource sector. An increase in real exchange rate makes imports relatively cheap, which subsequently increases the competition between foreign products and domestically produced goods.

Sachs and Warner (1995, 2001) confirm the negative relationship between resource abundance and economic growth on a worldwide basis. They use exports of natural resources

[12] Although the phenomenon was experienced in 1959, the term "Dutch Disease" was not coined until 1977 by the Economist. Source: http://www.economist.com/node/16964094

as a percentage of GDP as a measure of resource abundance and real GDP per capita to measure economic growth. They use a broad definition of what is considered natural resources. In their study, natural resources include: agriculture (primary and processed), metals, minerals, and hydrocarbons. With a base year (1970), they found that countries with resource abundance had significantly lower economic growth (1970-1989).

Auty (2001) also found that GDP per capita of resource-poor countries grew two to three times faster than resource-rich countries for the period 1960-1990. We can exemplify this by observing the progress of the four Asian Tigers, namely Hong Kong, South Korea, Taiwan and Singapore. The Asian Tigers are resource-poor, but through specialization in other competitive areas, they have experienced a growth rate in excess of 6 percent over a sustained period of 30 years (Sarel 1996). In contrast, we have the resource-rich countries that have performed badly, like Mexico, Venezuela and Nigeria (Sachs and Warner 1995). For instance, Nigeria has been reliant on oil export since the 1970s, and the development experience of Nigeria has been disastrous. Nigeria's GDP per capita was USD 1,113 in 1970 and has remained at USD 1,084 in 2000 (Sala-i-Martin 2003). In addition, during the same period, the poverty rate increased from 36 percent to just below 70 percent (ibid).

Contrary to Sachs and Warner (1995; 2001) and Auty (2001), Bunnschweiler (2007) uses other measures for resource abundance and finds a positive relationship between resource abundance and economic growth - that is - a resource *blessing* rather than a curse.

According to Auty (2001), there are two categories of resources: point-sourced natural resources, which we will mainly focus on in this thesis, and diffused natural resources. The distinction is mainly based on the concentration of the resources, where point-sourced resources are geographically concentrated (oil and minerals) and exploitation is capital intensive, while diffused resources (agriculture) are more widely dispersed across societies and investments barriers are modest (Stevens and Dietsche 2007). The categorization of these two types of resources is essential for the clarification of why natural resource exporters have suffered economically.

Studies by Steven and Dietsche (2005) and Isham et al. (2005) show that diffused and point-sourced resources affect natural resource-exporting countries differently. Point-sourced resources induce heightened social divisions and weak institutional capacity correspondingly

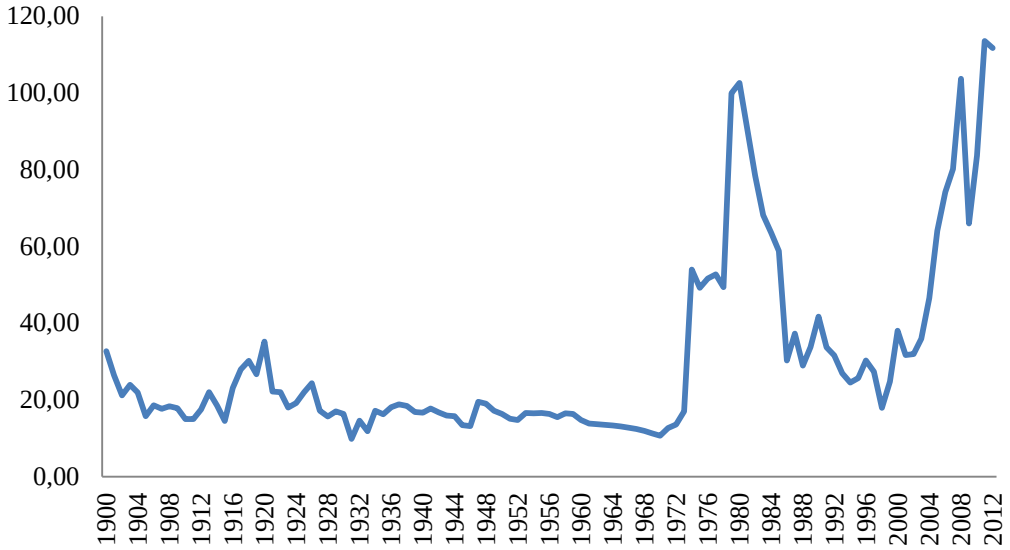
to the narrow social basis of concentrated ownership and capital intensive production. Subsequently, the ability to manage shocks and disturbances in the economy is hampered. Other arguments for the findings are that point-sourced resources generally have higher associated rents, and those geography-specific resources more easily can be controlled and monitored by governments, making rent-seeking more likely.

In addition, point-sourced resources like oil are nonrenewable and take thousands of years to replenish and they are being consumed at a rate more rapidly than they are. These point-sourced resources are also volatile sources of revenue. The volatility of oil earnings stem from three sources: I) the variation over time in rates of extraction, II) the variability in the timing of payments by corporations to oil-producing governments, and III) fluctuations on the international market in the value of oil (Humphreys et al. 2007, p. 6).

Other challenges of oil reliance are the volatility in the international oil prices. The petroleum price is contingent upon various geopolitical and economic events and macroeconomic factors. For instance, potential world crises can lead to a dramatic decrease in oil prices for the reason that the traders anticipate the crises will limit supply (Amadeo 2012). This is illustrated in Appendix 1 where for example the global financial collapse led to an immense decline in oil prices.

Collier (2007, p. 3) found that "commodity booms have positive short-term effects on output, but adverse long-term effects. The long-term effects are confined to 'high-rent', non-agricultural commodities". The adverse long-term effects are associated with fluctuations in oil prices, which enhances a pro-cyclical government spending behavior where spending increases correspondingly with the increase in the international oil price (Humphreys et al. 2007; Auty 2001; Sturm et al. 2009).

FIGURE 1: HISTORICAL OIL PRICES 1900-2012 IN CURRENT USD



Source: BP's Statistical Review of World Energy 2012; own calculations

Recent resource curse literature also focuses greatly on institutions. In new institutional economics, Douglass North, Ronald Coase, and Oliver Williamson are cornerstone contributors. New institutional economics incorporates theory of institutions - laws, rules, customs, and norms - into economics (Ronald Coase Institute, 2014). Institutions are generally defined as "the rules of the game in a society; or more formally, the humanly devised constraints that shape human interaction" (North, 1991, p. 477). Formal institutions are for example regulatory laws and rules, while informal institutions are beliefs, customs and norms that are much more resistant to change. Findings in the literature suggest that the negative relationship between resource abundance and economic growth is moderated when controlling for the quality of national institutions. Studies like Atkinson and Hamilton (2003) show that resource abundant countries suffering from the resource curse have low genuine savings. Low investments and saving rates are due to poor quality institutions. Mehlum, Moene and Torvik (2006) find evidence that the quality of institutions is decisive for the country's economic outcome. When separating the countries with good institutions from the countries with bad institutions, the adverse relationship between resource abundance and economic growth is much stronger within the sample of countries with bad institutions.

Empirical findings in Williams (2011) suggest that there is a strong causal relationship between high revenues from point-sourced resources and lack of transparency. In this regard,

our thesis will elaborate on whether or not a resource fund can be considered an adequate mechanism to keep a certain degree of transparency.

Kolstad and Wiig (2009a) highlight the correlation between transparency and corruption, and discuss mechanisms by which transparency reduces corruption. Although the correlation is rather clear, they warn policy makers that transparency in itself is not sufficient, and that transparency also may cause problems. In other words, complete transparency is often not the optimal transparency.

Tsani (2013) provides insight into how resource funds affect the institutional quality in resource-rich countries. Her results show that resource funds can be considered useful for policy makers in addressing institutional challenges associated with resource abundance. However, sample sizes to obtain the results are often small.

NATURAL RESOURCE FUNDS

Humphreys et al. (2007) claim that the focus of NRFs is to maintain economic stability against volatile commodity prices and also to share the benefits of the natural resources with future generations. Hence NRFs are often labeled *savings funds*, *future generations funds*, or *stabilization funds*. Even though these categorizations sometimes intertwine, they each have their own operational and policy objectives that differ according to the underlying establishment purpose. Savings funds and future generations funds have similar purpose, where the funds address long-term challenges of intergenerational equity. The objective is to maximize the real annual payout per capita of GDP with the intention of spreading wealth across generations (Ahmadov et al. 2011). Meanwhile stabilization funds have a short-term policy objective to smooth government revenues by saving commodity revenues when the actual commodity price exceeds a reference price that is formulated based on a long-term trend. The revenues saved will then be withdrawn from the fund if the actual commodity price falls below the reference price (Ahmadov et al. 2011). Stabilization funds serve as a liquidity pool which can be drawn upon in unfavorable periods and conversely replenished at times of favorable commodity price conditions (Ahmadov et al. 2011).

Currently, close to half of the existing NRFs operate as separate legal entities, while the rest comprise of dependent entities within the Central Bank or Ministry of Finance of the relevant

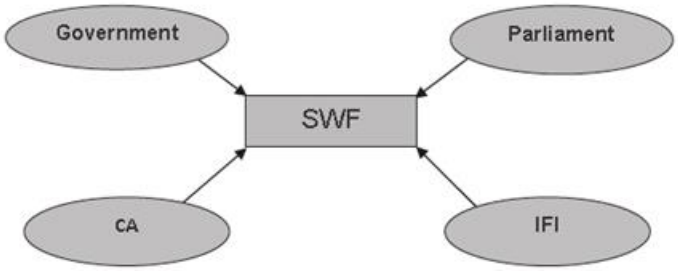
country (Ahmadov 2011). But NRFs share the fundamental objective of helping governments by dampening problems created by large revenues from the petroleum sector.

Regardless of the different policy objectives resource-rich countries have with NRFs, it is imperative to stress that the policy objectives of NRFs change as the circumstances change. Considering this, it is essential to recognize the objectives and activities of NRFs and to what extent they are consistent with the macroeconomic framework of a resource-rich country (Ahmadov et al. 2011). This is pivotal for the reason that the assets and returns of a NRF have an effect on the public finances of a country. The revenues and assets generated can also influence the wealth of the public sector and the behavior of the private sector.

Kalyuzhnova (2006) suggests that key requirements to achieve success with NRFs lie in governance issues. Ahmadov et al. (2011) discuss three elements of good governance in NRFs; I) clarity of goals, roles and responsibilities. Unlike traditional state structures like Ministry of Finance, it can be complex to define clear goals and the role of NRFs; II) sustainable development for the benefit of future generations. Resource-rich countries suffer the most from oil price volatility, which makes matters difficult for a stable economic growth. Hence, the priority of the government and the NRF is to provide a long-term stability, which is ensured by effective management of the assets of the NRF. One task at hand for the fund is to find an optimal proportion for allocation of assets to the current and the future generation. Factors determining this are for instance predicted reserves, production rates, macroeconomic strategy, social demographics and so forth; III) transparency and accuracy of information. Transparency is one of the key principles of good governance, and it implies disclosure of regular, comprehensive and understandable information.

Ahmadov et al. (2011) presents a framework that reflects the decision-making process in the NRF management. The degree of power to be shared can range from giving constituencies veto rights to a monitoring and supervisory role. The decision-making can be allocated to different levels of government for example about how much and what the money is to be spent on. Another way is to include an independent body that does not have incentives to overspend to approve or supervise the decision making, for instance civil society representatives. The entities included in the management of a natural resource fund are the government, the parliament, the international financial institutions (IFI) and Chamber of Accounts (CA).

FIGURE 2: GOVERNANCE AND DECISION-MAKING PROCESS IN A SWF



Source: Ahmadov et al. (2011)

The government is the owner of the NRF and is usually represented by the Ministry of Finance. The government is interested in resolving financial problems related to the NRF as well as an optimal integration of the NRF to the overall macroeconomic sector of the country (Ahmadov et al. 2011). However, during difficult periods, such as budget and planning deficits, the government would want an unrestricted access to the assets of the NRF. This would thus induce negative consequences such as higher inflation and macroeconomic imbalance. A key requirement for a successful functioning would therefore be to have a strong parliament that acts as the legislative body by limiting government spending of the assets and ensure long-term supervision of the spending. Norway's pension fund can provide an instance with successful NRFs accountable to the parliament. Therefore, it is crucial in countries with lack of accountability and responsibility to have a strong and functional parliament to have a legislative restriction on spending and a mandatory compliance with this very rule in practice. IFIs are chartered by more than one country and are thus subjects of international law. IFI's role is to regularly review and develop recommendations on the improvement of management of NRFs and to show interest in finding solutions that are optimal for NRF development in different countries. Most notably is the International Monetary Fund (IMF) (Ahmadov et al. 2011). Finally, the Chamber "exercises control over the volume of the receipts and the expenditure assets of the state budget and out-of-budget SWFs, control over their structure and timely execution in line with their assignment" (Ahmadov et al. 2011, p. 41).

3.2. BUDGET CONTROL

One of the major issues in countries with rich natural resources such as hydrocarbons and minerals is to properly and efficiently manage revenues collected from these very resources. Governments are left with endowments following periods with high prices of oil and other primary commodities, meaning that decision on spending the revenues is left with the governments.

The increase in spending is often related to transfers to the private sector, which induces little growth and often leads to pro-cyclicality spending. This is also known as the *voracity effect*, meaning that a positive shock in government revenue, especially from natural resource sector, results in an increase in discretionary spending (Tornell and Lane, 1999). Many small and resource-rich countries suffer from the voracity effect on account of the absence of precise institutional and procedural limitations on transfers of oil revenue to the state budget. Such limitations lead to a misbalance in the financial structure that consequently establishes inflationary conditions in the domestic economies, rent-seeking effects, social inequality and authoritarian economic governance (Ahmadov et al. 2011).

PRINCIPLES FOR TRANSFERS

Bacon and Tordo (2006, p. 131) discuss the importance of principles for transfers in and out of a natural resource fund (NRF) as following:

"*Principles for transfers in and out of the fund, is needed to establish confidence in the government's motives for creating the fund and its judgment on how much can be deposited in the fund from current oil revenues. To accomplish this, a draft of the law and accompanying regulations governing the operation of the fund should be widely circulated, and there should be a mechanism for interested parties to make their comments known publicly."*

They present two approaches for determining transfers into an oil fund: I) direct transfer. This approach requires that some categories of oil revenues are to be paid into the fund, which is held by the treasury or the central bank of the respective countries; II) indirect transfer. In this

approach, revenues from oil are paid to the treasury, and subsequently, the parliament or the President will determine the expenditures from oil revenues.

They also present three approaches for determining withdrawals from the fund: I) fully specified mechanism. Withdrawals are determined by the progression of oil price, investment performance and production volumes of the fund. Subsequently the dividends of a fund, or a formula determining a reference price, will regulate the withdrawals; II) expenditure capping mechanism. By limiting expenditure, policy makers must be deliberate on the balance between the short-term and long-term needs of the country; III) no formal reference mechanism. The authorities are unrestrained in their decision on how much can be withdrawn from the fund.

This ultimately leads to several implications. The first is that spending should not track revenues, but instead be stabilized during boom and bust periods. The second is that revenues that stem from non-renewable resources should be saved for future generations and to compensate for meager years (Humphreys and Sandbu 2007). For these very implications, resource dependent countries have established natural resource funds. Even so**,** studies have shown that "having a stabilization fund in itself does not address the issue of budget control, so what matters is its design, including clear rules on asset accumulation and investment, and institutional arrangement to enhance transparency and accountability of the fund" (Engel and Valdés, 2000; Bacon and Tordo, 2006; Asfaha, 2007; Le Borgne and Medas, 2007; and Villafuerte et al., 2010, in Sugawara, 2014, p. 4).

3.2.1. FISCAL RULE

Wagner and Elder (2005) find that using a natural resource fund to stabilize government expenditure is highly dependent on the structure of the deposit and withdrawal rules governing the fund. For instance, there are rules with constitutional force governing inflows and outflows of NRFs and there are rules that have no legal force that merely serve as guidelines or commitments. In more detail, results from Wagner and Elder's test show that compared to states without natural resource funds, policy makers with discretion over deposits and withdrawals show no signs of reduction in expenditure volatility. This suggests that such funds do not stabilize expenditure. However, results show that implementing one or more strict rules regarding deposits and withdrawals will have substantial reductions in cyclical expenditure fluctuations. Specifically, Wagner and Elder find that states with rule-bound or

strict budget stabilization funds witness a greater reduction in the volatility of expenditures than states without. The key challenge is thus to regulate the fiscal policy in a way that consider both short and long-term objectives, domestic political pressures and international considerations (Sturm 2009)

Sturm et al. (2009) conduct an empirical analysis of the pro-cyclicality of fiscal policy in oil-exporting countries. A panel of 19 oil-exporting countries constitutes a sample that is split into two sub-periods, 1965-1984 and 1985-2005, with the former covering two oil price shocks and the latter covering the beginning of the oil price hike. Results point to pro-cyclical behavior of fiscal policy for the first period, and even more pronounced in the second period, with no sign of abating.

Humphreys and Sandbu (2007) conduct an empirical research studying relationship between windfall revenues from the natural resource sector and expenditure derived from the revenues. Results show that government expenditure positively correlates with revenue fluctuations. Simply put, the government spends more in periods of large windfall revenues. Expenditure smoothing here describes a relationship for a period of time in which expenditures are stable, even when revenues fluctuate. They find that year-to-year change in government expenditure is positively correlated and with fluctuations in oil revenues. Specifically, results show that there is a strong relationship between the strength of the institutional environment, for instance checks and balances system, and the effect of oil revenues on spending. As a result, they argue that decisions regarding withdrawals should be regulated by clear rules rather than by general guidelines, that decisions should be diversified represented by many political constituencies, and that there should be high levels of transparency in the operation of the fund.

Devlin and Lewin (2005) argue that that the key to manage oil booms lies in fiscal policy, in part by restraining expenditure and by revenue management. The aim is to eliminate instability in areas such as aggregate demand and real exchange rate by smoothing expenditure over time (ibid). They also refer to a study conducted by IMF (Davis et al. 2001) that analyses the impact of oil revenues on government spending. It assesses whether the establishment of a natural resource fund (NRF) will have a noteworthy impact on government spending. Based on the data collected from the study, results show that for countries with

NRFs, expenditure is less correlated with fluctuations in revenues than in countries without NRFs, if the funds operate according to the rules.

Humphreys and Sandbu (2007) propose a series of "fixes" that can help reduce government overspending following their results. One of the "fixes" for a natural resource fund is by separating the decision-making authority, as previously discussed under 'previous studies'. This can reduce inefficient expenditure by encouraging compromise solutions and reduce the inter-temporal disagreements that are beneficial to all. In addition, with a more balanced distribution of power, the pressure and need for information is increased, and thus transparency may be increased.

Other institutional "fixes" suggested by Humphreys and Sandbu are rules such as qualitative and quantitative constraints concerning withdrawals and deposits that govern the magnitude and composition of spending from a natural resource fund. Designers of natural resource funds can use these "fixes" as guidance to identify solutions in their political setting that will reduce government spending.

3.2.2. EXPENDITURE CONSTRAINTS

Rules that limit government spending can be related to one year's revenue or to total wealth, or a combination of both. These rules can at one end limit spending to a proportion of the revenue that is already accumulated in the natural resource fund, and at the other end be expressed as a function of the commodity's price and its deviation from a reference level (Humphreys and Sandbu 2007). The calculation of future oil prices is crucial in order to help stabilize current government revenues. The procedures for making this calculation are dependent on the forecast of oil prices. However, this function can be futile as estimations can be overly conservative or overly optimistic. If the estimation of a benchmark price level is overly conservative, the level of expenditure would be inappropriately low, and subsequently investments would halter. Meanwhile an overly optimistic estimation relative to the actual oil price would result in excessive government spending (Lücke, 2010). Suggestions are that "the longer the period over which expenditures are to be stabilized (a longer period implies a higher potential financing requirement), the more cautious the underlying price assumption should be" (Sturm 2009, p. 47).

Rules can also limit spending to a proportion, normally the expected return on investment, of the money that is accrued in the NRF (Humphreys et al. 2007). In other words, spending is limited to a function of financial wealth rather than total natural resource wealth (excluding resources that are still to be extracted). The purpose of resource funds is to separate the spending patterns from revenues that fluctuate annually. Therefore, it would be inferior to limit spending to a function of revenues rather than to limit it to a function of wealth.

However, focusing merely on how much can be spent is not sufficient. A natural resource fund can benefit by having rules governing the way the money is spent, as the incentive to overspend is partially derived from how the money is spent. Rules of existing natural resource funds vary considerably in how legally binding they are. For instance, Ecuador allocates excess revenue from oil to various funds for specific purposes determined by law, while the amount to spend remains at the President's discretion. Another example is the state law of Alaska that specifies that 50 percent of the return be distributed to the residents. This again relates to the findings of Wagner and Elder (2005) previously discussed.

3.3. TRANSPARENCY

Transparency International (2014) defines transparency as "a characteristic of governments, companies, organizations and individuals that are open in the clear disclosure of information, rules, plans, processes and actions." Hence, the amount of disclosed information is imperative. Scarcity of available information is an obvious challenge for analysts and decision-makers. However, large amounts of information can be a source of obscurity and confusion, rather than a source of transparency. Besides the quantity of available information, one must also stress the quality of information to determine the level of transparency. Transparency Initiative (2014) and studies like the one conducted by Kopits and Craig (1998), argue that businesses and governments must release information that is accessible, relevant, comprehensive, understandable, comparable, timely and accurate in order to achieve transparency.

The word transparency has become widely used in the last decade. Some call it a "buzzword", but it has become an integral part in the literature of new institutional economics. Transparency in social sciences deals with asymmetry of information. If a transaction is

completely transparent, all parties will have equal access, meaning that the information is symmetrical. In the area of resource wealth management, transparency has become topical as people, communities and organizations increasingly demand insight into the use of natural wealth.

3.3.1. TRANSPARENCY IN RESOURCE WEALTH MANAGEMENT

Transparency is highlighted by many as a key component of successful governance of resource funds. This thesis examines the transparency of the resource funds, as opposed to measuring transparency at state or even at a national level. One must unquestionably acknowledge that the level of transparency in a country as a whole can have implications for the level of transparency of the fund. In other words, the level of transparency in a country can have both a cause-and-effect relationship with the level of transparency of the resource fund.

Although our thesis focuses on the effects within each country, one should not disregard the effect that transparency has in the international market. In spite of everything, resource funds are big players on the international financial markets, and a majority of resource funds' assets are invested abroad. Trust is fundamental in every economic transaction and it is equally, if not more, important when making transactions abroad.

Transparency is a good tool for obtaining trust. Welch and Hinnant (2003) find that transparency increases the citizens' trust in governments. International financial institutions take great interest in transparency and put pressure on governments to enhance transparency. One of the reasons for this is that there often is little or no legal enforcement to make sure a country follows rules on the international arena (Global Transparency Resource, 2014).

Empirical findings in Williams (2011) show that there is a strong causal relationship between revenues from natural resources and a subsequent lack of transparency. In other words, large revenue streams from fuels, ores and metals drive the lack of transparency. The rationale is that without large revenues there would be less reason for governments to hide illegitimate economic behavior. Williams (2011) also finds evidence that lack of transparency is associated with a reduction in economic growth. For measuring transparency, Williams (2012) develops and uses an index called the Release of Information Index. The index is a measure of the quantity of information released by governments with annual figures for 175

countries in the period of 1960-2005. The index is, strictly speaking, a quantitative measure, however Williams argues that quantity and quality of information are highly correlated.

Tsani (2013) provides insight into how resource funds affect the general institutional quality in resource-rich countries. Tsani's model sets institutional quality as the dependent variable, with a set of explanatory variables including a dummy variable for the presence of a resource fund. Tsani usesthree measures from World Bank governance indicators to measure governance and institutional quality: I) Government effectiveness, II) rule of law, and III) control of corruption

Tsani finds a positive and significant relationship between the presence of a resource fund at year t-10 and governance and institutional quality at year t. Hence, the study seems to indicate a positive institutional effect ten years after the introduction of a resource fund. This finding is interesting, as it suggests that resource funds can prevent general institutional deterioration in a country. We know from previous studies in the resource curse literature (Mehlum, Moene, and Torvik, 2006; de Medeiros Costa and dos Santos, 2013; and Luong and Weinthal 2010), that the quality of general national institutions is an essential explanation to the resource curse hypothesis. Tsani (2013) argues that all resource funds, to some degree, increase transparency in a country's resource wealth management. This is due to the fact that resource funds commonly provide track records of payments going into the fund, which allow for better monitoring of revenues. Resource funds also improve the ability to track the usage of oil windfalls for government purposes. Lastly, Tsani notes that resource funds can trigger public awareness and debates on the use of resource revenues. Resource funds are arguably good "starting points" for national civil groups and international initiatives to create awareness of the national management of resource wealth. To summarize, resource funds can be used as means of creating public awareness and provide transparency in resource wealth management, and in this way help alleviate resource curse problems.

Tsani (2013) is one of few quantitative studies of resource funds. It has interesting findings, but also has some limitations. It does not take into account the different levels of transparency between the funds. A qualitative study will be able to go into more detail and explain the differences in transparency.

Transparency can affect several national institutions, but because of its strong theoretical link to corruption, we will explore effects on corruption in particular. Furthermore, corruption is considered a particularly important aspect of the resource curse. Heavy flows of revenue from

natural resources often fuel political corruption. A number of studies find evidence that natural resource export lead to increased corruption (Bhattacharyya and Hodler 2009; Busse and Gröning 2013; Bacon and Tordo 2006). With increased corruption, the effectiveness and the level of accountability of a government is decreased and the economy is distorted (Corrigan 2009). Especially in developing countries with abundant natural resources, the endowments can be used by political leaders to maintain themselves in power, either by legal means, such as spending a proportion of the wealth on political campaigns, or by illegal means, for instance funding militias or bribing government officials (Humphreys et al. 2007). Countries with such endowments have fewer incentives to build up and improve institutional infrastructure outside the resource sector. For instance, the lack of reliance on taxing citizens because rulers have an assured source of income is thought to hinder development of effective states. Many rulers have the opportunity to hide their wealth through tax havens. The issue of corrupt money flow is a widespread problem, most notably in Africa. For instance, a study consisting of 30 sub-Saharan African countries over the period 1970-1996 showed that the capital flight, defined as assets or money that rapidly flow out of the country, was estimated to a total amount of USD 274 billion (Shaxson 2007).

It is widely accepted that corruption is a deterrent to economic growth, and is documented in studies (like Mauro 1995, 2004; Abed and Gupta, 2002; Leite and Weidmann, 1999; Mo, 2001). But to answer the question if transparency can reduce corruption, Kolstad and Wiig (2009a) highlight the correlation between transparency and corruption, and discuss mechanisms in which transparency reduces corruption. They find a negative correlation between transparency and corruption. Transparency, Kolstad and Wiig say, is necessary to reduce corruption. However, they warn policy makers that transparency in itself is not sufficient, and that transparency may also cause problems. "In addition to access to information, you need the ability to process information and the ability and incentives to act on the processed information" (Kolstad and Wiig 2009a, p. 524). Education is a precondition for transparency to work, and transparency initiatives are only truly effective when aligned with good education policies.

Kalyuzhnova (2006) discusses the importance of transparency in NRFs and how it can prevent few interest groups from appropriating oil resources. Transparency in resource revenue has been supported by IFIs, including the IMF. Further, Kalyuzhnova presents four dimensions of transparency that deserve attention: I) Clear definition of goals and rules-based operations. Rule-based operations provide the legislative and administrative framework of

how a resource fund can be expected to function. In terms of transparency, such framework has a controlling function as it sets boundaries and can help detect operations not in accordance with the framework. II) Availability of public information. III) Acceptable internal accounting and auditing of the funds. IV) Arrangements for the appointment of officials and managers.

3.3.2. TRANSPARENCY INITIATIVES

In this thesis we want to explore drivers of transparency for resource funds on the institutional level. There are two specific initiatives that address transparency in resource wealth management: the Extractive Industries Transparency Initiative (EITI) and the Santiago Principles.

EITI

"The Extractive Industries Transparency Initiative (EITI) is a global coalition of governments, companies and civil society working together to improve openness and accountable management of revenues from natural resources" (EITI website, 2014).The EITI produces reports that compare company payments in extractive industries with revenues reported by the government. Deviations between reported payments from companies and revenues to the government give cause for concern as the revenues might have slipped into the pockets of government officials or politicians. The EITI standard contains a set of requirements in which countries have to fulfill. Membership is voluntary, in which member countries can be recognized as a c*andidate* member or a *compliant* member. EITI candidate countries are in the process of implementing EITI standards, but have yet to meet all criteria, while EITI compliant countries must meet all requirements. Currently, EITI consists of 44 countries, of which 26 are compliant.

A study by Corrigan (2013) finds early indicators of EITI being successful. Results show that the negative effect of resource abundance on economic growth is mitigated for EITI members. However, EITI's effect on the level of democracy, political stability and corruption is little. The EITI is criticized by Kolstad and Wiig (2009a) of having a too narrow view on transparency. They argue that the EITI's focus on revenue collection is only one part of the value-chain in oil and gas. Upstream activities, such as awarding contracts, and monitoring of

operations, and downstream activities, such as distribution and public expenditure are not covered by the EITI (Kolstad and Wiig 2009a).

SANTIAGO PRINCIPLES

The Santiago Principles are a set of 24 Generally Accepted Principles and Practices (GAPP), developed by the International Working Group (IWG) of SWFs in 2008. The IWG was discontinued and its successor is the International Forum of SWF (IFSWF). The Santiago Principles are mainly concerned with transparency and accountability that aim to aid the governance of sovereign wealth funds specifically.

A distinction between the Santiago Principles and the EITI is that the former is concerned with governance and transparency of resource funds specifically, while the latter is concerned with openness and transparency of companies and governments involved in extractive industries. Initiatives, such as the EITI and Santiago Principles, can help governments establish acceptable levels of transparency, and also create incentives towards more transparent and better governance of resource funds.

Ahmadov et al. (2011) is largely in favor of the Santiago Principles. By submitting to Santiago Principles, the governments acknowledge the importance of transparency, and therefore show some willingness to comply. Ahmadov et al. (2011) point out that it is essential for resource funds to develop clear guidelines and rules for transparency if one is not a member of the Santiago Principles.

3.3.3. MEASUREMENTS OF FUND TRANSPARENCY

Two indexes that are often used to indicate the level of transparency of resource funds are the Linaburg-Maduell Index and the Truman Scoreboard.

LINABURG-MADUELL TRANSPARENCY INDEX

Linaburg-Maduell Index was developed in 2008 by the Sovereign Wealth Fund Institute. It rates the level of transparency in SWFs. The index ranges from 1-10 where 1 is the lowest and 10 is the highest level of transparency. The index is based on ten principles (Appendix 4);

each principle adds one point to the index score, where partial scores are not awarded. In order to gain an adequate level of transparency, funds must score a minimum of 8, which is left at the discretion of the SWF Institute. The Linaburg-Maduell index list includes 52 SWFs, and as of 2014, there are 24 funds that qualify as adequate level of transparency.

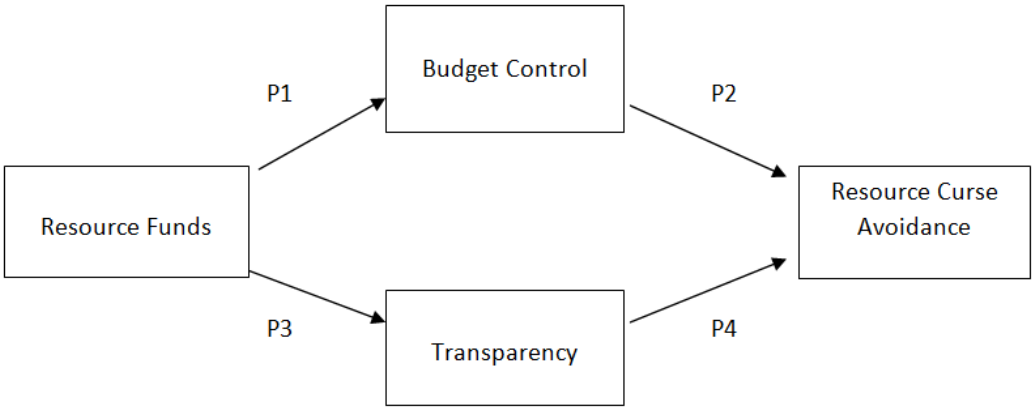
TRUMAN SCOREBOARD

The Truman Scoreboard for SWFs was first developed by Truman in 2007. The Scoreboard ranges from 0 to 100. It measures different aspects of SWF performance, as it covers four categories (see Appendix 5): I) structure, II) governance, III) transparency and accountability, and IV) behavior. In total, 36 questions are asked, and the fund can obtain a maximum score of 1 per question. Partial scores are given based on expert assessment, so that each question can give the scores: 0, 0.25, 0.50, 0.75, or 1. When looking for a measure for transparency, it will be most suitable to use the third category on *transparency and accountability*, which consists of 14 questions.

Limitations of the two measures are discussed further in the research methodology section. In the next section, we will incorporate our findings into a theoretical framework, and summarize the theory chapter with four propositions.

3.4. THEORETICAL FRAMEWORK AND PROPOSITIONS

A theoretical framework describes how key concepts on a topic are tied together. A reason for developing a theoretical framework is that it serves as guidance in the process of data collection. In addition, it brings structure to the presentation, analysis and discussion. Based on the theoretical grounding, we propose the following theoretical framework:



The four boxes represent the four main concepts of our study. For each concept, a set of operational measures are presented. The aim of the operationalizations is to have specific and numerical data in order to "measure" the concepts. The measures are taken from previous studies and theory. The "used in studies" column exemplifies in which studies the measures have been used.

TABLE 3: CONCEPTS AND OPERATIONALIZATIONS

Concept:	**Operationalizations:**	**Used in studies**[13]
Resource funds (institutional level)	➢ Size (assets of the fund, millions USD) ➢ Type of investments (% of total investments in equities, fixed-income bonds, real estate, etc.) ➢ Governance/rules/model/management of the fund[14]	Attributes for the funds of Norway, Kazakhstan and Azerbaijan are discussed in descriptive studies like: ➢ Ahmadov, Kalyuzhnova, Tsani, Mikhailovich, Aslanli (2011), ➢ Wagner and Elder (2005)

[13] see references for details
[14] what kind of rules govern the fund, what is the relationship between the fund and the state budget and other government spending

Budget control (institutional level)	➢ **Revenues**: petroleum revenues into the funds (annually) ➢ **Expenditures**: How much does the fund contribute to the state budget (annually)[15] ➢ **Savings** = revenues – expenditures ➢ **Budget balancing** = Transfers to state budgets as percentage of national budgets	➢ Humphreys and Sandbu (2007) ➢ Wagner and Elder (2005) ➢ Ahmadov et al. (2011)
Transparency (institutional level)	➢ **Truman Score-Index** specifically for the transparency of sovereign wealth funds. ➢ **Linaburg-Maduell Transparency Index** specifically for the transparency of sovereign wealth funds.	Detailed 2012 Truman transparency scores for SWFs are found in Bagnall and Truman (2013)
Resource curse? (macro-level)	➢ Oil export as a % of total export[16] ➢ GDP growth per capita [17] ➢ Variations in GDP growth per capita[18] ➢ Institutions at the national level: measured by: Corruption Perception Index by Transparency International ➢ The World Bank Governance indicators.	➢ Sachs & Warner, 1995, 2001; ➢ Williams, 2011; ➢ Mehlum, Moene and Torvik, 2006; ➢ Kolstad and Wiig, 2009, and more The studies use different time periods. ➢ The World Bank Governance indicators are used by Tsani (2013) to measure institutional quality.

3.4.1 OPERATIONAL MEASURES

The concepts *resource funds*, *budget control* and *transparency* are on an institutional level –

[15] Seeing how these revenues and expenditures fluctuate/correlate we aim to discuss if the fund promotes or hinders sustainable use of oil revenues.
[16] This is a measure of oil dependence.
[17] The average GDP per capita over several years (2001 – 2012) is to indicate sustainable growth.
[18] The variation in economic growth (volatility) from year to year is an indication of vulnerability to external shocks.

that is – specific to the resource funds. The *resource curse* concept is naturally measured at the country-level. This is further elaborated in the research methodology chapter. The topic *budget control* will consist of three parts: *Savings*, *expenditure smoothing* and *budget balancing*. There are hence three operational measures in this section:

- **Savings =** revenues minus expenditures reported by the funds, for the period 2001–2012
  - Annual fund revenues and expenditures will be presented in graphs. The difference in revenues and expenditures equals the savings (accumulation) in the fund.
- **Expenditure smoothing**: (two measures used, but primarily the first)
  - Correlation between year-to-year changes in government expenditures and oil revenues.
  - Correlation between year-to-year changes in fund revenues and fund expenditure.
- **Budget balancing**:
  - Share of fund transfers in national budget – will be presented in graphs, with annual figures in the period 2001 – 2012.

- **Transparency** for the funds will have 2 operational measures:
  - The Linaburg-Maduell Transparency Index.
  - The Truman Scoreboard (section on *transparency and accountability* only).
    - To provide in-depth understanding of the funds' level of transparency, the two measures will be compared to own findings on transparency.

The resource curse concept will be explored by three measures: I) measure for oil dependence, II) measure for economic growth, and III) measure for institutional quality:

- **Oil dependence** = Oil exports as a percentage of total exports
  - Presented as annual figures in graphs.
- **Economic growth** = GDP per capita growth rates
  - Presented as annual figures in graphs. Both general trends and fluctuations in GDP per capita growth rates will be discussed.
- **Institutional Quality: Corruption** = Control of Corruption Index by the World Bank.
  - Presented as annual figures in graphs.

3.4.2. PROPOSITIONS

Building on the referred theory, four propositions have been developed. The propositions are marked P1, P2, P3, and P4 in the theoretical framework (p. 38). Propositions are statements of the relationship between concepts. In contrast to hypotheses, propositions are not intended to be empirically testable. The purpose of the propositions in a qualitative study is to extract the main findings from the theory and subsequently guide the analysis and discussion. For this reason, we will present a short summary of theory that is associated to our model.

Propositions P1 and P3 deal with characteristics of the fund and their level of budget control and transparency. They are reflected to research questions 2 and 3 (in Chapter 1):

- What characteristic(s) of the funds explain the funds' budget control?
- What characteristic(s) of the funds explain the funds' different levels of transparency?

Propositions P2 and P4 deal with the impact of budget control and transparency on avoiding the resource curse. They are both related to research question 5.

Wagner and Elder (2004) find that the ability for natural resource funds (NRF) to stabilize government expenditure is highly dependent on the structure of the deposit and withdrawal rules governing the fund. The results of the findings show that implementing strict and clear rules regarding deposits and withdrawals will have substantial reductions in cyclical expenditure fluctuations. Humphreys and Sandbu (2007) also argue that decisions regarding withdrawals should be regulated by clear rules rather than by general guidelines, that decisions should be diversified represented by many political constituencies, and that there should be high levels of transparency in the operation of the fund.

P1: Clear strategies and clear rules on deposits and withdrawals improve the fund's budget control.

Devlin and Lewin (2005) argue that that the key to manage oil booms lies in fiscal policy, in part by restraining expenditure. A study conducted by IMF (Davis et al. 2001) show that for countries with NRFs, expenditure is less correlated with fluctuations in revenues than in countries without NRFs. That is, only if the funds operate according to the rules. Hence, our proposition regarding budget control relative to the resource curse is as following:

P2: A resource fund's budget control will contribute positively to avoiding resource curse

Tsani (2013) argues that all resource funds, to some degree, increase transparency in a country's resource wealth management. In resource wealth management, there are particularly two initiatives that promote transparency: The Extractive Industries Transparency Initiative (EITI), and the Santiago Principles. Corrigan (2013) finds early indicators of EITI being successful. Although, Kolstad and Wiig (2009a) criticize EITI of having a "narrow view" on transparency, it undoubtedly promotes transparency and awareness on the topic.

Ahmadov et al. (2011) is largely in favor of the Santiago Principles as a mean of increasing transparency. Alternatively, Ahmadov et al. (2011) argue that funds must develop their own set of clear guidelines and rules for transparency. Overall, the EITI, Santiago Principles, or alternatively other guidelines for transparency are the characteristics of the funds that drive transparency.

P3: A commitment to the Santiago Principles, Extractive Industries Transparency Initiative and/or own clear guidelines and rules for transparency will result in higher transparency for the fund.

Tsani (2013) finds evidence that there is a positive relationship between the presence of a resource fund, and subsequent increase in the quality of general national institutions. Her explanation includes that funds generally increase the transparency in the management of natural resource wealth. Previous studies in the resource curse literature (Mehlum, Moene, and Torvik, 2006; de Medeiros Costa and dos Santos, 2013; and Luong and Weinthal 2010; Humphreys and Sandbu, 2007), discuss the importance of the quality of national institutions as an essential explanation to the resource curse problem. Negative economic effects of resource abundance are eliminated when the quality of institutions are taken into consideration. Overall, high transparency for resource funds improves the quality of general national institutions which is an integral part of the resource curse problem.

P4: A higher level of resource fund transparency contributes positively to avoiding the resource curse.

4. RESEARCH METHODOLOGY

This chapter starts with a description of the research methodology and the design of this study. Subsequently, there will be a description of the procedure and sourced used to collect data for this thesis. Lastly, validity and reliability of the study will be discussed.

4.1. RESEARCH METHODS

Yin (2014, p. 2) defines a case study as "an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident." Furthermore, he divides case studies into two types: single-case and multiple-case studies. Multiple-case studies compare two or more cases, and are also called comparative studies.

This thesis investigates the use of resource funds ("the phenomenon") within the thematic context of national resource curse avoidance. By comparing the three resource funds of Norway, Kazakhstan, and Azerbaijan, it is hence a comparative study.

One can classify research as quantitative or qualitative. Quantitative research "addresses research objectives through empirical assessments that involve numerical measurement and analysis" (Zikmund et al. 2013, p. 134). Qualitative research does not necessarily depend on numerical data, and its focus is on "discovering true inner meanings and new insight" (Zikmund et al., 2013, p. 132). Our study can be considered qualitative research. That does not necessarily exclude the use of quantitative data, numeric values and statistics. In fact, the analysis will rely on a considerable amount of quantitative data collected, both regarding the funds and on macro level.

Zikmund et al. (2013) explains that qualitative research often use exploratory research designs, while quantitative research often use descriptive or causal designs, although exceptions exist. The major emphasis in exploratory research is on the discovery of ideas and insights (Andersen 2013). In addition, exploratory research can be used as a preliminary step in descriptive or casual research (Andersen 2013). Descriptive research is used when the purpose of the study is to describe the characteristics of certain groups or to analyze

relationships between variables, or to make predictions (Zikmund et al. 2013), while casual research design identifies and explains cause-and-effect relationships (Zikmund et al. 2013).

We have used an exploratory approach in our literature search. We found that budget control and transparency are key aspects considering the use of resource funds in natural resource wealth management. However, the focus could be different, even for the same specific topic, countries and time period chosen. Hence, this thesis explores the terms transparency and budget control with regards to resource funds. The focus on transparency and expenditure was formed through exploratory research. Similarly, exploratory research helped us break down broad research questions into more precise and defined questions and propositions.

Our study is also descriptive in the sense that we want to describe characteristics of resource funds in the three countries observed. Our sample of three funds is small, and is not intended to be a representative sample of all resource funds. Therefore, one must be careful in making generalizations on the basis of this study. Our study can, however, shed light on how different characteristics of a resource fund could contribute to avoiding the resource curse.

4.2. RESEARCH DESIGN

A research design represents the 'master plan' or framework for the study as a guide in collecting and analyzing data (Andersen, 2013). Yin (2014, p. 26) describes a research design as "the logic that links the data to be collected (and the conclusions to be drawn) to the initial questions of study."

Components of research designs: (Yin 2014, p. 29)

1. Research questions
2. Propositions
3. Unit(s) of analysis
4. The logic linking of the data to the propositions (data analysis)
5. The criteria for interpreting the findings (validity and reliability)

From the initial research questions, it is imperative to build a theoretical grounding. Even though it is a comparative study, we also chose to develop a theoretical framework. A reason for developing a framework is to help "guide" us in the process of data collection and analysis. We will not discuss the components of research questions (point 1), and propositions

(point 2) further, as they are already addressed in previous chapters. The remainder of this chapter is dedicated to explaining units of analysis (point 3), data sources and data analysis (point 4), validity and reliability (point 5).

4.3. UNITS OF ANALYSIS

The units of analysis section will be split in three subcategories (partly adopted from Yin, 2014): I) Selecting cases, II) identifying the unit of observation and III) unit of analysis and bounding the case.

SELECTING CASES

In comparative studies the selection of cases is information-oriented rather than based on randomness. The choice of cases will depend on the purpose and the analytical focus of the study. There are generally two types of comparative designs that constitute each end of the spectrum: most similar system design and most different design (Teune and Przeworski, 1970).

We are, in a sense, combing the two forms of comparative designs. The first criterion for selection is that the countries must have their own resource fund. Secondly, it would call for an interesting analysis and discussion if the respective funds were *different* in terms of transparency and budget control. When selecting cases, the NFRK and SOFAZ were considered less transparent than the well-known and transparent NGPFG. Kazakhstan and Azerbaijan are relatively similar in terms of geography, political history and so forth, whereas Norway is considered to be different in these terms. In other words, the national context in which the funds operate is vastly different between Norway and the two other countries, whereas Kazakhstan and Azerbaijan share more of the same attributes.

UNITS OF OBSERVATION – THE "PHENOMENON"

This thesis studies the resource funds of three countries: Norway, Kazakhstan and Azerbaijan. It is hence a comparative study with three units of observation (N=3). Units of observation are sometimes referred to as cases or phenomena (Lor 2012). Specifically, the three units of observation are: the Norwegian Government Pension Fund - Global (NGPFG), the National Fund of the Republic of Kazakhstan (NFRK), and the State Oil Fund of Azerbaijan (SOFAZ).

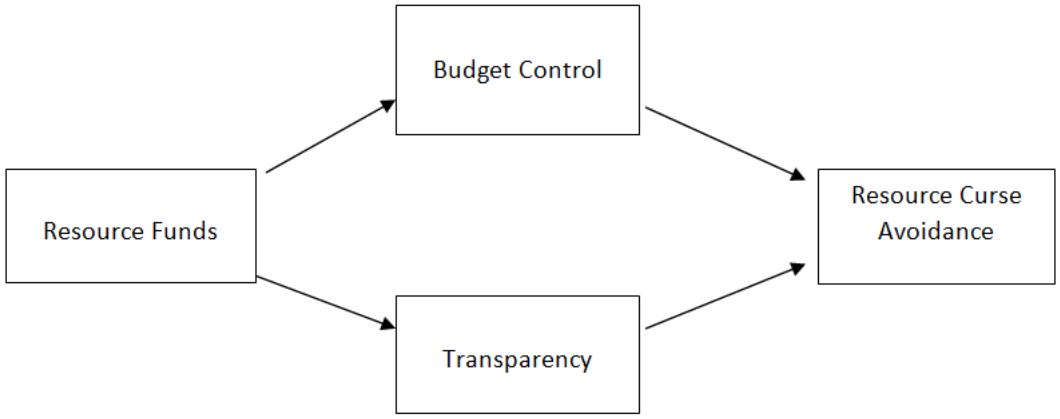
For each unit of observation, several categories can be observed. These categories can be variables, concepts or constructs. These categories can also be referred to as units of variation (Lor 2012). A concept is an abstraction formed by the perception of a phenomenon, and is not directly observable. Variables, on the other hand, are concrete and observable (Zikmund 2012). Our study has two particular concepts of interest: Transparency and budget control. The first step in defining these concepts is giving them a clear theoretical definition. The definition should include properties and characteristics of the concepts. One should be able to separate the concept from other concepts and avoid a circular definition (Andersen 2013). When a definition is set, the concept needs to be measured, which involves assigning numeric values to the concepts.

UNITS OF ANALYSIS – THE "CONTEXT" - AND BOUNDING THE CASE

Any phenomenon can be studied at various levels of analysis. As the main research question indicates, this study will look at resource curse implications on a national level. This is the natural level of analysis and is used extensively in the resource curse literature. The unit of analysis refers to the type of entity or object that is studied (Lor 2012). At the country level, the unit of analysis is simply the countries in which the funds operate. Overall, this seems to be the natural units to analyze, as it is the context in which the resource funds operates and aim to improve.

Why is it necessary to distinguish between *the phenomenon* and *the context*? This paper wants to explore how resource funds (the phenomena) affect each country (the context) in avoiding the resource curse. This paper looks at how single institutions, namely the resource funds, can affect the context in which it operates. Again, the units of variations, budget control and transparency, are specifically linked to the funds. These findings can be summarized in the theoretical framework:

Units of Observation	Units of Variation	Units of Analysis
The "phenomenon" Institutional level	Institutional level	The "context" Country-level



Yin (2014) points out that other clarifications, such as the time interval, must be defined for a study. The time period chosen for this study is from 2001 – 2012. The time interval is the same for all countries to increase comparability. For practical reasons, the time interval also reflects the availability of information regarding the funds. For example, the NFRK and SOFAZ were established in 2000, and the latest comparable macro data available is for the year 2012.

4.4. DATA SOURCES AND COLLECTION

This study is based on publicly available archival records and documents. And with archival records, we refer to statistical data or "public use files" made available by local or national governments, as well as by international organizations (Yin, 2014). Documentation generally refers to a wide variety of documents. For this study, the types of documentation and archival records include:

- Formal studies on the units of observation – studies on the resource wealth management and resource funds of Norway, Kazakhstan, and Azerbaijan.
- Annual reports of the resource funds, and additional information released by the governing bodies of the funds (official websites, press releases etc.)
- Macroeconomic data from international statistical sources.
- National (state) budgets.

- Administrative documents – rules and regulations governing the funds.
- Articles and news clips in newspaper and other media on the subject.

A social science comparative study in the international context aims to make comparisons across countries and cultures. A problem that may arise in comparative research is that data sets are not directly comparable because the data is categorized or defined differently by the different countries. For the collection of macroeconomic data, we have used international statistical sources (World Bank and IMF) rather than domestic sources (like statistical bureaus of the respective countries) in order to increase comparability.

When it comes to general characteristics of the fund, such as the value of assets, governance, management, types of investments and so forth, both primary and secondary sources were explored. Primary sources would in this case refer to information released by the governing bodies of the funds. Annual reports were the main source of primary sources, but websites, press releases and other sources of primary information were also used. Secondary sources would be other formal studies or articles written on the topic. Ideally, one would like to use primary sources of information (information from the governing body of the funds), but on occasion this kind of information is not made available by governing bodies of the funds. Due to practical constraints like time, language and resource, every single detail cannot be pursued. Primary sources have been used as much as practically possible, otherwise secondary sources are referred to in the text.

4.5. VALIDITY AND RELIABILITY

This subsection will discuss some terms related to the validity and reliability in regards to our study.

"*Construct validity*: identifying correct operational measures for the concepts being studied" (Yin 2014, p. 46). At the end of the theory chapter, the operationalization for the concepts is presented. Construct validity measures the degree to which the operational measures coincides with the concepts. Most of the operational measures used are found in previous studies. Some studies have a narrow definition of the concept resource curse, for example, Sachs and Warner (1995; 2001) simply look at the economic growth measured as GDP per capita. We believe the concept is much wider and extensive, and we have thus included other measures to give a more complementary picture of the concept resource curse.

At the institutional level, the operational measures become more specific to the resource funds. This is for the reason that we do not want to measure transparency and budget control for the country in general, but for the funds specifically. The transparency measures reflect solely on the transparency of the funds. However, the Linaburg-Maduell index and Truman scoreboard are not flawless. The Linaburg-Maduell index ignores indicators of quality. We also question the necessity of some requirements of the Linaburg-Maduell index, such as the requirement to manage its own website, to provide main office location address and contact information such as telephone and fax (Appendix 4). In our opinion, the scale of the index becomes skew when the result of these requirements gives "free points". Anything below a score of 7 or 8 can be considered "low transparency".

The Truman scoreboard incorporates qualitative measures by having partial scores. The part of the Truman scoreboard concerned with transparency is in fact called *transparency and accountability* which may suggest that it is measuring something outside the concept of transparency. However transparency and accountability are interlinked, so questions on transparency will be relevant for accountability and vice versa.

As a result of the limitations regarding validity of the Linaburg-Maduell Index and the Truman Scoreboard, we will include our own findings on transparency.

"*External validity*: defining the domain to which a study's findings can be generalized" (Yin 2014, p 46). The question to external validity is how the findings of a study can be used to make generalizations. The most commonly recognized way is using statistical generalization (Yin 2014). Although we make use of statistics, a misconception would be to consider statistics to generalize our findings in comparative study (Yin 2014). In most comparative studies, there will be many variables and a small number of samples, commonly called the "small N"-problem. It is obvious that one cannot draw statistical conclusions for all existing resource funds, based on an analysis of just three. Comparative studies are used to make analytical generalizations – that is, learning lessons that can be applied in reinterpreting existing studies, situations, or to develop new research (Yin 2014).

"*Reliability* demonstrates that the operations of a study – such as the data collection procedures – can be repeated with the same results" (Yin 2014, p. 46). The use of international statistical sources, as opposed to domestic statistical sources, increases comparability and hence the validity and reliability of our results. Therefore, we have decided to use sources like IMF, WTO and World Bank instead of the domestic statistical bureaus.

Other studies using the same method of data collection would have gotten similar data. The basis for the interpretation of the results would therefore also be similar. However, the interpretation and analysis of the data are our own. Like with most explorative studies, there would be little guarantee that the conclusions would be identical if the study had been repeated by other researchers.

OTHER VALIDITY AND RELIABILITY ISSUES:

The National Fund of Kazakhstan (NFRK) reports are less thorough than reports from Norwegian Government Pension Fund - Global (NGPFG) and State Oil Fund of Azerbaijan (SOFAZ). We will use the word "report" when discussing NFRK, but a more appropriate description would be a "statement of revenues and expenditures"[19]. Figures are given, but how the numbers are derived or calculated is omitted. In NGPFG and SOFAZ reports, figures and information were in general more comprehensive and explanations were included. This is of course a transparency issue and will be discussed in turn, but potentially it has implications for the validity and reliability of the study. We found that there were considerably more studies, articles and commentaries (secondary data) on NGPFG and SOFAZ, than NFRK. In effort to increase validity and reliability, we cross-checked numbers in state budget and annual reports of oil funds for applicability.

[19] The actual name of the document published by the Kazakhstani Ministry of Finance is "Statement of receipts and application of the National fund of the Republic of Kazakhstan".

5. EMPIRICAL FINDINGS

In this section, we will present each fund in succession. For each fund, the structure and characteristics of the fund will be presented, followed by empirical findings on budget control and transparency. As previously mentioned, funds differ in terms of goals, rules, strategies and size. Through empirical findings we will assess on whether or not the funds' budget control and transparency will aid in avoiding the resource curse.

THE CONTENT OF BUDGET CONTROL AND TRANSPARENCY

Empirical findings regarding budget control are related to three parts: savings, budget balancing and expenditure smoothing. Structurally, the three parts could have been presented in separate sections. However, we regard the parts as interrelated and hence present them all under "budget control".

To explain the funds ability to smooth expenditures, correlations coefficients will be used. The ability of the funds to save and balance budget will be illustrated with the help of graphs:

- "Revenues and expenditure" graphs[20]:
  - The purpose is to illustrate *savings.* The difference between revenues and expenditures equals savings.
  - *Revenues* include all deposits, investment returns, as well as other revenues defined by fund reports. Revenues are categorized differently by NFRK, SOFAZ and GPFG which will be explained under each fund. Investment returns is categorized as "revenue", and included as negative values for years of negative returns.
  - *Expenditures* from the fund's point of view vary slightly between the three funds. Expenditures can however be divided into two parts: Transfers to the state, and costs associated with the management and auditing of the fund.
- "Share of fund transfers in budget" graphs:
  - The purpose is to explain how funds are used for *budget balancing*
  - It is the actual transfer to the state that is of interest, and other expenditures, like management costs, audit costs, exchange rate changes, etc. are excluded.

[20] For the definition, please refer to Table 2, p. 38

- Information will be presented in the respective national currencies.

The purpose of the sections on *transparency* is to explain the level of transparency for the three funds by presenting own findings and two measures for transparency, as well describing the funds' commitment to transparency initiatives

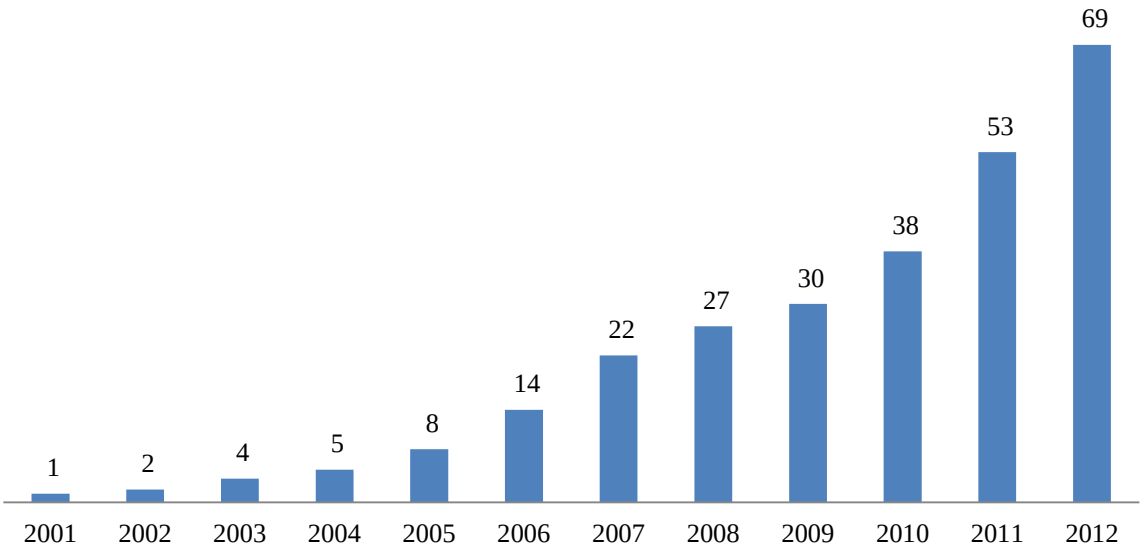
5.1. THE NATIONAL FUND OF THE REPUBLIC OF KAZAKHSTAN

The NFRK was established in 2000 with the purpose of being a buffer against fluctuations in the prices of oil, gas and metals. Today, it also serves as a tool for savings and sustainable development in Kazakhstan. Due to its functions, the fund can be classified as both a *stabilization fund* and a *savings fund*.

SIZE OF THE FUND

At the end of 2012, which is the latest officially reported annual NFRK figures available, the National Fund of Kazakhstan had assets worth KZT 10,446 billion, equivalent to USD 68.9 billion. SWF Institute (2014) ranks NFRK as the 10th largest sovereign wealth fund related to oil and gas in the world in size. It is less than one tenth the size of the Norwegian GPFG, but about double the size of the SOFAZ.

FIGURE 3: VALUE OF THE NFRK IN USD BILLIONS



Source: NFRK Annual Reports. Converted to USD; own calculations.

NFRK has had continued growth in assets since its establishment in 2000. After a gentle start from 2001 to 2005, the fund has experienced a significant growth in assets. During the global financial crisis of 2007/2008 and a following depreciation of the Tenge, the asset growth was reduced slightly in the period 2007-2009. In the next three years, the value of NFRK has more than doubled.

The fund's asset value divided by the GDP gives an indication of its relative influence on the country's economy. The GDP of Kazakhstan in 2012 was USD 201.6801 billion (World Bank 2014). The NFRK asset value was 34.13 percent of Kazakhstan GDP in 2012. This value is considerable, but it is still lower than its equivalent for Norway and Azerbaijan.

GOVERNANCE AND MANAGEMENT OF THE NFRK

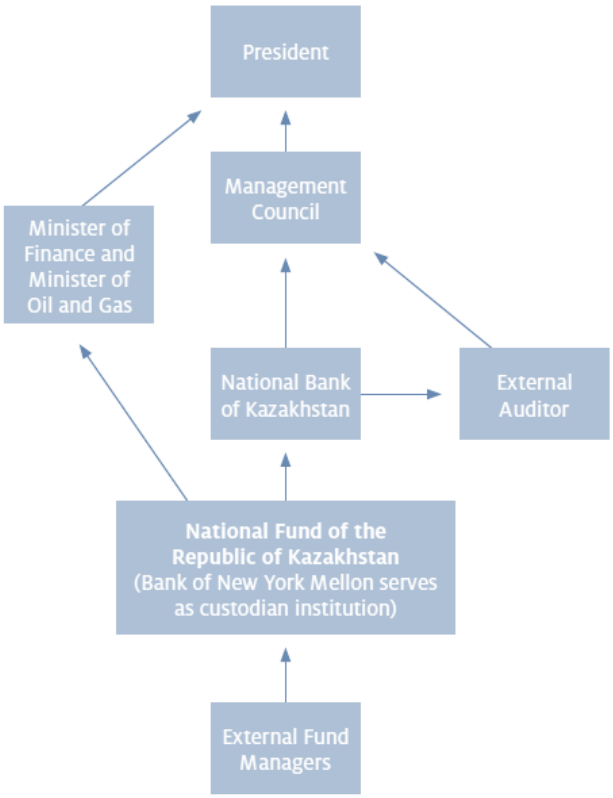
The fund is owned by the Ministry of Finance and managed by the National Bank of Kazakhstan. The Ministry of Finance and the Ministry of Oil and Gas approves a list of petroleum companies which are obliged to pay taxes directly into the fund (Revenue Watch Institute 2013). The National Bank of Kazakhstan (NBK) is in charge of day-to-day management (Revenue Watch Institute, 2013).

The governing board (management council) is chaired by President Nazarbayev who approves all the members of the board. All the members are government officials, including the Prime Minister and other high-ranking ministers (Ahmadov et al. 2011). The management council sets governance and investment policies for the NFRK, informs the President on fund activities, and advices decisions (Revenue Watch Institute 2013). The Management Council monitors fund's activity and ensures compliance with regulations.

The external managers manage the NFRK's global equity investments. The external auditor, which is chosen by the management council, revises the fund (Revenue Watch Institute 2013). The annual cost of auditing is stated, but no further information of the auditing results is given. The audit reports are not available to the public.

The figure shows the structure of management and ownership. The arrows indicate the accountability and reporting between the units

FIGURE 4: MANAGEMENT AND ACCOUNTABILITY OF THE NFRK

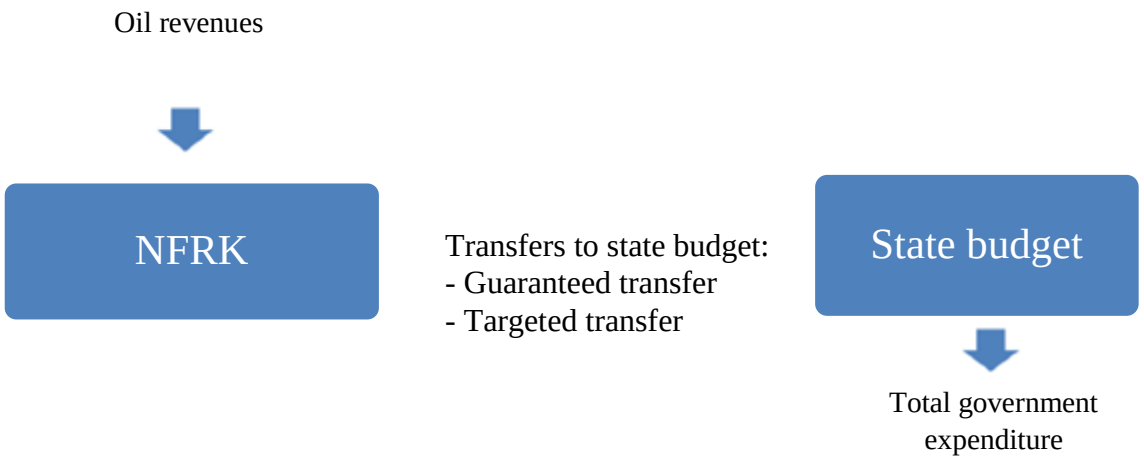


Source: Revenue Watch Institute (2013)

The fund itself and the management were established through Presidential Decrees (Revenue Watch Institute 2013). Legal aspects of the NFRK are given by the Presidential Decree No. 402, No. 1509, No. 1641, No. 336, and No. 962 (Ahmadov, 2011, and Revenue Watch Institute 2013).

It is essential to look at the NFRK's relationship with the state budget and the rules that govern it. The figure below outlines the NFRK and state budget relationship. The following section on inflows and outflows explains the rules of the deposits to and withdrawals from the fund.

FIGURE 5: NFRK'S RELATIONSHIP WITH THE STATE BUDGET



Source: NFRK Annual Reports

RULES GOVERNING FUND DEPOSITS

The fund deposit rules have undergone one major change in 2005. The rules governing the inflows to the NFRK can be divided into two periods: 2000 – 2004 and 2005 – present.

2000 – 2004:

In the initial period, the rules governing the fund's inflows were unclear and ambiguous. In practice, the annual budget surpluses, which were determined by the President, were transferred to the NFRK (Revenue Watch Institute 2013).

2005 – PRESENT:

State revenues from the petroleum industry stem from petroleum firms that are approved by the government (Revenue Watch Institute 2013). The Minister of Finance and the Minister of Oil and Gas approve a list of firms on an annual basis. The firms on the list are obliged to pay a set of direct taxes (Revenue Watch Institute 2013).

The fund's revenues (or receipts) are specified in the Presidential Decree No. 1641 as (Revenue Watch Institute 2013):

- *Direct taxes* from approved petroleum firms (Direct taxes can be sub-grouped into: corporate income tax, excess profit tax, bonuses, royalties, production sharing, oil and gas rent tax.
- *Other income from petroleum operations* such as fines from violations of oil contracts
- *Proceeds from privatization* of state property
- *Proceeds from sales* of land
- *Investment income* of the fund (return on investment)
- *Other income* deposited by the government that is not prohibited by law.

Figures for the six categories of revenues are reported annually by the Ministry of Finance. The main sources of revenues are direct taxes and investment revenues.

RULES GOVERNING FUND WITHDRAWALS

The use of the fund can be categorized in three parts: Guaranteed transfers, targeted transfers, and management and audit expenses of the fund. *Guaranteed transfers* are annual sums that enter the state budget of Kazakhstan. The guarantee transfer is a primary revenue source of the state budget (Kemme 2011). How the size of the guaranteed transfer has been determined has been subject to changes over the fund's lifespan. *Targeted transfers*, on the other hand, are one-off withdrawals, not determined on an annual basis. Targeted transfers have only been used in 2008 and 2009 in order to support Samruk-Kazyna in the financial crisis. Samruk-Kazyna is the joint stock company, owning state-owned enterprises including KazMunaiGas, the state oil company. Due to changes in legislation (Presidential Decrees) different rules for usage of the fund have been applied:

2000 – 2004

Similar to deposit rules, withdrawal rules were unclear in the first four years of operations, where the President determined the use of the fund (Revenue Watch Institute 2013).

2005 – 2009

The relevant law in this period was the Presidential Decree No. 1641. It stated that the guaranteed transfers could only be used for development purposes and not to cover general expenses in the state budget (Revenue Watch 2013). The size of the guaranteed transfer was determined by the following formula (Revenue Watch Institute 2013, p.6):

$$\mathbf{G = A + bNFRK_{t-1} * E}$$

G – Guaranteed transfer amount

A – Number set by law every three years based on the budgets development programs' average costs over a given period of time

b – Number set by law every three years based on the average level of investment income over a given period of time

$\mathbf{NFRK_{t-1}}$ – value of NFRK assets at the beginning of a fiscal year

E – exchange rate between Kazkh Tenge and U.S. Dollar

The maximum cap on the annual use of the fund was 1/3 to avoid depletion (Revenue Watch Institute 2013).

2010 – PRESENT

The relevant law for this period is the Presidential Decree No. 962, informally known as the "New Concept". The formula used for the previous period was abolished for a fixed annual guaranteed amount. The fixed amount can be used for current state budget expenditures, as well as for development purposes. The amount can be adjusted with 15 percent depending on the state of the Kazakhstani economy (Revenue Watch Institute 2013).

For 2010-2012 the guaranteed transfer was set at approx. USD 8 billion annually. In 2013 it was increased to around USD 9 billion. As a maximum limit, the value of the fund cannot fall below 20 percent of GDP for a given year. If it does, the guaranteed transfer is cut accordingly to cover the difference in the value.

INVESTMENT STRATEGY

As stated earlier, the fund can be classified both as a stabilization fund and a savings fund. In other words, the fund has two purposes: stabilization and savings. The investment strategy of NFRK is twofold in order to serve these purposes.

The stabilization portfolio strategy is to invest in highly liquid assets so that its value is available and can be used in the short run (Revenue Watch Institute 2013). The savings portfolio strategy is to invest in assets intended to yield maximum long-term returns.
The overall *investment objective* of the fund is that assets should be invested in a way that safeguards its value and maintains its liquidity while minimizing the risk to a moderate level[21].

TYPES OF INVESTMENTS AND ALLOCATION

There are two portfolios of the NFRK reflecting the two functions of the fund: a *stabilization* portfolio, and a *savings* portfolio. Both funds are USD denominated.

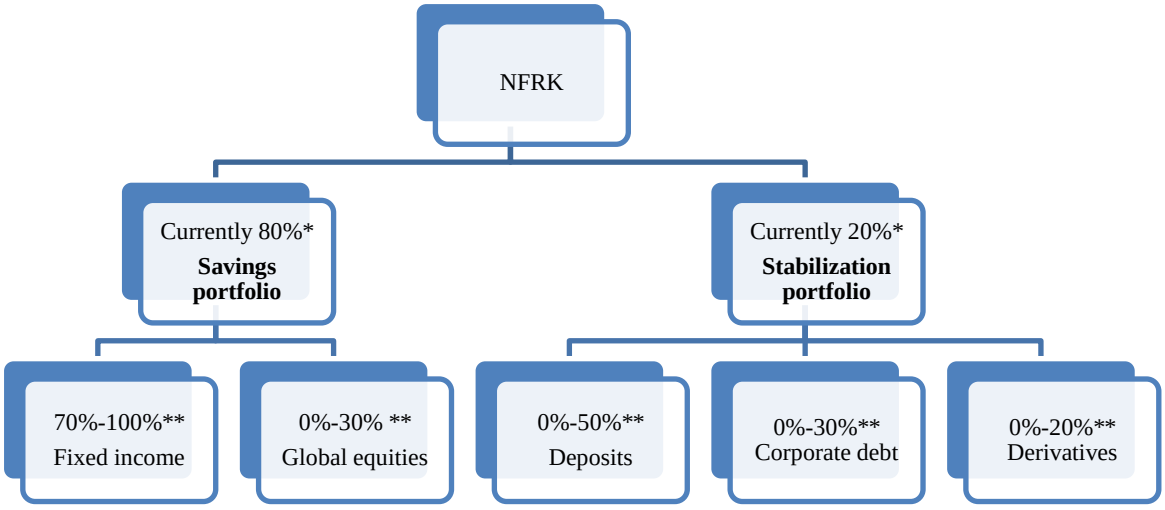
The National Bank of Kazakhstan publishes annual reports with a small section on the management of the NFRK. It comments on the annual return of the two portfolios, but does not list assets allocation by class or geographic location (own findings, and Revenue Watch Institute 2013).

Due to "asset targets" of the two portfolios we can say something about asset allocation: Initially in 2000, the fund was injected with around USD 1.2 billion, where approx. USD 900 million was allocated to the savings portfolio and approx. USD 300 to the stabilization portfolio (Kemme 2011). This constitutes a 75 percent allocation to the savings portfolio and 25 percent to the stabilization portfolio. According to Ahmadov et al (2011) the allocation percentage was later changed to 80 percent.

The following diagram shows the allocation targets for the two portfolios of the NFRK. We emphasize that this overview does *not* reflect the *actual* allocation, but best approximations and the latest allocation targets to date.

[21] Resolution of the Board of the National Bank of the Republic of Kazakhstan No. 65 July 25, 2006. Available at: http://adilet.zan.kz/ rus/docs/V060004361_#z36

FIGURE 6: ASSET ALLOCATION OF THE NFRK



Source: *According to Ahmadov et al (2011), **According to Revenue Watch Institute (2013)

Over the time period 2001 – 2012, there have been several changes to the allocations. For example, the savings portfolio was initially 40-60 global equities and fixed income, but changed to 25-75 in 2007, and 20-80 in 2008 (Kemme 2011). For the purpose of this paper however, we will not go into historical detail regarding allocation.

5.1.1. BUDGET CONTROL

REVENUES AND EXPENDITURES

Revenues[22] as defined by NFRK reports equal *direct taxes, return on investment (investment income), other income from petroleum operations, proceeds from privatization, proceeds from sales,* and *other income*. Throughout NFRK's lifespan, the majority of the revenues have originated from direct taxes, and return on investment.

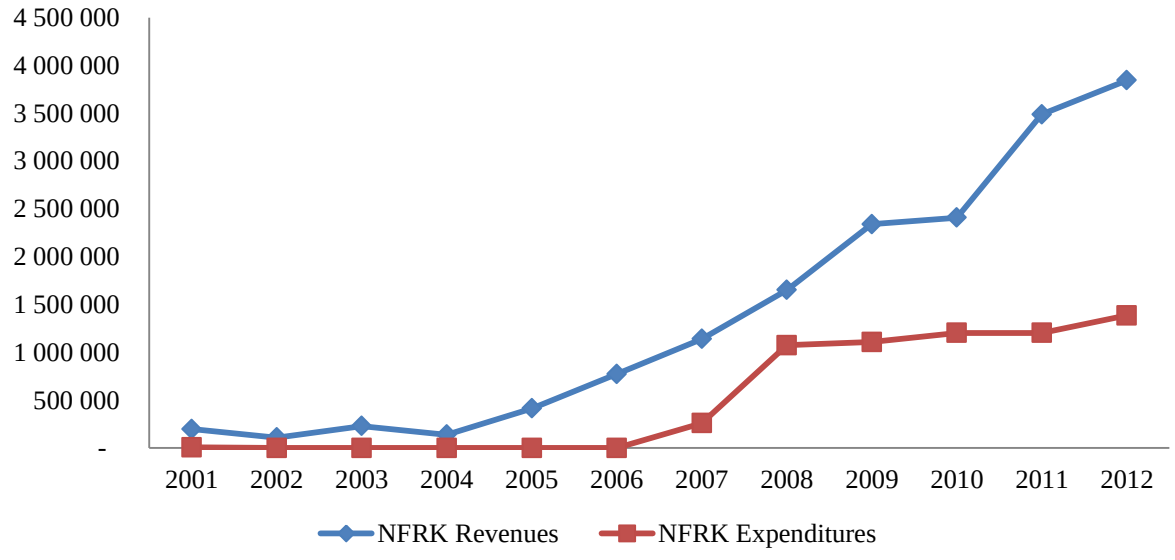
[22] Revenues are denoted as "Receipts" in NFRK reports. For more detail on the NFRK revenues by category, see Appendix 7

The NFRK reports categorize expenditures[23] into three parts: guaranteed transfers, targeted transfers, and management and audit costs. At present, the majority of the NFRK expenditures are guaranteed transfers. However, in the first period of operation, no transfers (neither guaranteed nor targeted) were made to the state budget. The modest expenses in this period were related to management of the fund and auditing. Targeted transfers have only been used twice; in 2008 and 2009, as a measure for limiting the effect of the global financial crisis.

There has been a general growth in revenues. The plots of the revenues show that revenues were relatively constant from 2001 to 2004. From 2005, the revenues have steadily increased annually up to 2012, but with a slight kink in 2010.

Expenditures were very low in the period 2001-2006. In this period, no transfers to the state budget were made, and only minor expenses to management and auditing incurred. In 2007, the first transfer was made to the state budget resulting in increased expenditure. The leap in expenditure of 2008 was mainly due to an extraordinary payment, called a *targeted* transfer, to the state budget.[24] After 2008, expenditures have continued to increase, yet at a more moderate rate.

FIGURE 7: NFRK REVENUES AND EXPENDITURES 2001 – 2012 IN KZT MILLIONS



Source: NRFK annual reports 2001-2012; own calculations

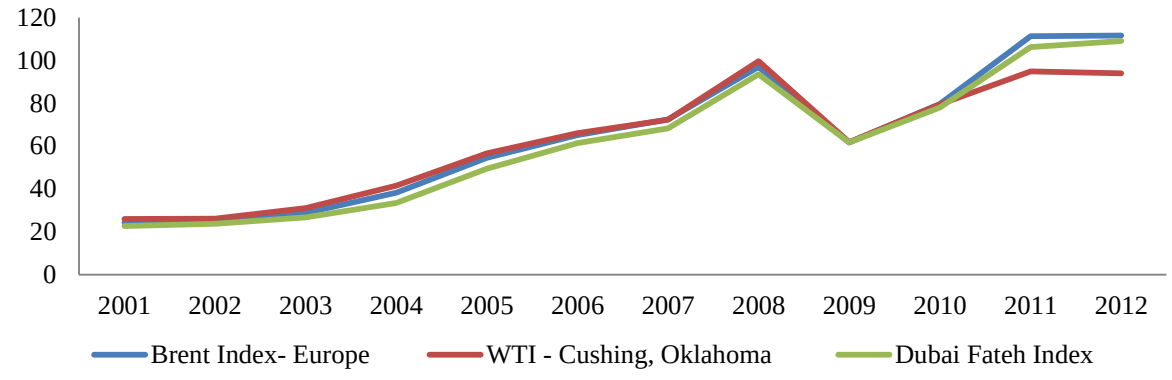
[23] Expenditures are often denoted as "Applications of the fund" in NFRK reports.
[24] For more detail on the NFRK revenues by category, see Appendix 7

The difference in revenues and expenditures equals the accumulation (savings) in the fund for that year. When revenues exceed expenditures, there is accumulation of value in the fund. When expenditures exceed revenues, there is deterioration of the fund value. Therefore, this graph serves as a good illustration of the NFRK's *savings function*. For NFRK, revenues have exceeded expenditures each year, resulting in increasing asset values. In other words, the fund has been able to accumulate each year in the period 2001-2012. Even in the financial crisis of 2007-2008, the fund's value has been able to accumulate, despite a leap in expenditure. The fund's ability to save was low in its first four years of operations. The fund was able to accumulate larger sums in 2005-2007 as revenues increased while expenditures were kept a low level. The increased expenditures in light of the financial crisis were inhibiting savings, but savings increased from 2009 onwards. In the financial year of 2012, the NFRK accumulated KZT 2,458,184 million (approx. million USD 16,347).

CAUSES OF REVENUE AND EXPENDITURE TRENDS

The oil price is normally a crucial external driver of state revenues from petroleum activities. To infer if this is the case for Kazakhstan, we can compare three important oil price indices with revenues for the fund.

FIGURE 8: HISTORICAL OIL PRICES IN USD



Source: Energy Information Agency (2014); own calculations

By looking at major oil price indices, we can see that the oil prices plummeted in 2009. Interestingly, direct taxes from petroleum firms, which are the main source of total revenue to

the fund, also dropped in the same year[25]. In fact, the trend of revenues from direct taxes seems to follow a very similar trend to that of the oil prices. A possible explanation to this is the government use of *reference prices* when calculating taxes. When a target price is exceeded, surplus payments are transferred to the fund. The use of reference prices would cause tax revenue into the fund to increase in periods of high oil price, allowing more spending in periods of low prices. According to Ahmadov et al. (2011), the NFRK has adopted the use of reference prices. Reference prices are set for oil, gas, as well as for metals, but the reference prices are not published (Revenue Watch Institute 2013). The oil price is, as expected, an important factor in determining revenues. Using reference prices in determining the revenues is in our opinion one type of rule governing the fund that make the revenues correlate positively with the oil price. On the expenditure side, Ahmadov et al. (2011) state that money from the fund is made available for government spending, when the oil drops below a certain prices, causing expenditure to rise in periods of low prices. Arguably, the reference price supports the stabilization function of the fund. More money accrued to the fund in periods of high prices allows for spending when prices are low.

Obviously, macroeconomic shocks similar to the one Europe experienced in 2007/2008 had large influences on the spending pattern of the NFRK. In fact, the first official transfer to the state budget was made in 2007[26], followed by large *targeted transfers* in 2008 and 2009. The purpose of the *targeted transfer* was to reduce the negative effect that the global financial crisis could have on the Kazakhstani economy.

Wagner and Elder (2004) find that government spending is highly dependent on the structure of deposits and withdrawal rules that govern the resource fund. There has been one major change in the rules governing deposits to the NFRK in 2005 (Revenue Watch Institute 2013). Prior to 2005, revenues were relatively constant, but following 2005 we see a gradual increase in revenues into the fund. A possible explanation to this finding is that the new "method" of making deposits to the fund has been beneficial for increasing revenues and value accumulation. It is likely that the new rules governing deposits to the fund is a driver for the growth in revenue following 2005.

[25] The reduction of direct taxes is not evident by the "revenue and expenditure" graph. Look at "revenues by category" in Appendix 7 for detail.
[26] A minor transfer to the budget was also made in 2001.

INDICATORS FOR EXPENDITURE SMOOTHING– CORRELATION COEFFICIENTS

The use of correlation coefficients will be an indication of the ability for expenditure smoothing: the smaller the correlation coefficient, the better the ability to smooth expenditure. By using IMF (2013c) figures, the overall government ability to smooth expenditure can be indicated by:

Correlation (year-to-year change in government expenditure, year-to-year change in oil revenues)
= **0.7549**

This is a clear indication of a government that spends more as it earns more windfall oil revenues. It can be implied that the NFRK is not used in a fashion that promotes expenditure smoothing.

We can produce a similar coefficient in the point of view of the fund, by using the fund's revenues and expenditures. The correlation coefficient for the NFRK below, expresses the fluctuations between the year-to-year change in revenue, and the year-to-year change in expenditure.

Correlation (year-to-year change in fund revenues, year-to-year change in fund expenditures)
= 0.1774

This coefficient is an indication that changes in fund revenues are positively, but weakly correlated with the expenditures of the fund. Revenues and expenditure data is collected from NFRK reports. One possible explanation on why the coefficient has a relatively low value is due to the fact that no transfers were made to the state budget in the period 2002-2006.[27] Both correlation coefficients would likely have lower values if they had been adjusted for inflation[28].

BUDGET BALANCING

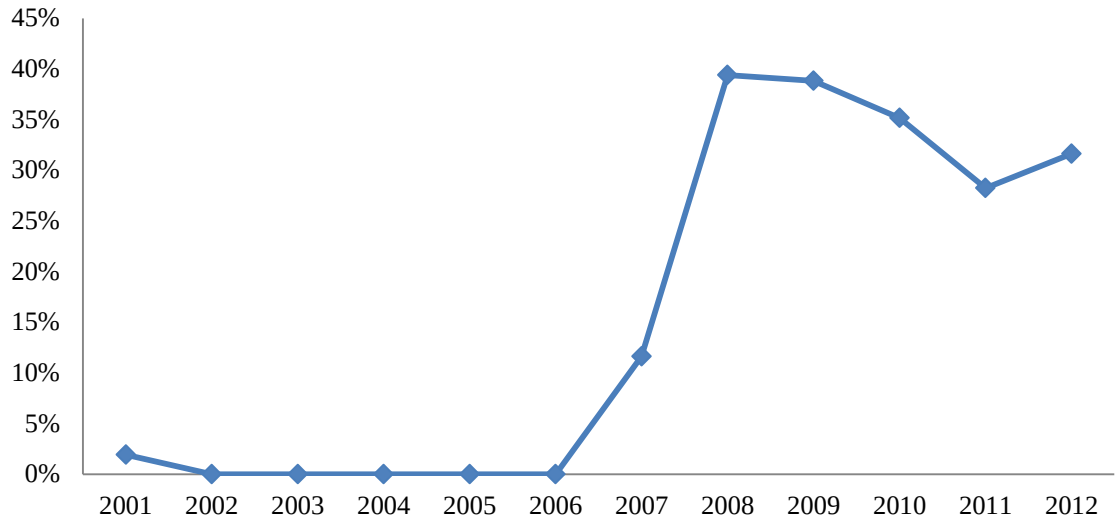
The Kazakhstani state budget, which is also called the republican budget, has increased each year in the period. Government expenditures increased from KZT 391 billion in 2001 to KZT

[27] Other limitations to the NFRK report data will be discussed below as well as in the transparency chapter.
[28] Both measure use data expressed in KZT, and is not inflation-adjusted.

4,365 billion in 2012. Budget revenues do not always equal budget expenditure, and the difference equals the change in government debt. NFRK transfers are presented in the national budget as a source of state revenue, and the transfer are given as percentages of budget revenues in the graph below.

In the case of NFRK, it makes sense to look at both guaranteed and targeted transfers to the state budget because these are the two types of transfers directed to the republican budget. Management and audit costs are excluded in the calculations. The graph is a good illustration of how the fund has been used for *budget balancing* in the period.

FIGURE 9: SHARE OF NFRK TRANSFERS IN STATE BUDGET REVENUES



Source: NFRK annual reports and state budget, 2001 – 2012; own calculations.

A small transfer of KZT 7.5 billion was made to the state budget the first year of its operations. The transfer only constituted 1.92 percent of the total state budget revenue. In the five following years, no transfers were made to the state budget. From 2006 to 2008, the transfers to state budget increased dramatically as the share of the transfers to state budget was almost 40 percent in 2008. But the transfers to the state budget have slightly decreased subsequent to 2008.

LIMITATIONS IN REPORTING OF NFRK TRANSFERS

In the research process, a few questions were erected concerning the reported figures in NFRK's statements. Initially, a zero percent share of transfer to the budget can deceive readers to think that Kazakhstan has a non-oil budget surplus. Referring back to the rules governing the deposits of the fund, the rules were unclear and ambiguous for large parts of this period (2000-2004). In practice, the budget surpluses (including petroleum sector) were transferred to the fund. A zero percentage transfer share does not imply that the government did not spend petroleum revenues. A misinterpretation would be that Kazakhstan had a non-oil budget surplus, and hence did not need transfer from the NFRK to cover the non-oil deficit. The transfer data collected from the NFRK reports are in our opinion not directly comparable, if the rules for determining the deposits and expenditures were changed. Information on the relationship between the fund and the state budget is essential in understanding the share of transfers in budget over time. NFRK reports do not provide information on the relationship with the state budget. Neither do the National Bank reports give information on this. The basis for the discussion is information from secondary sources like Revenue Watch Institute (2013) and other studies of the NFRK, for example Ahmadov et al. (2011) and Kemme (2011). The lack of information in NFRK reports will be revisited in the section on transparency.

CAUSES OF BUDGET TRANSFER TRENDS

Transfers constitute a vast majority of expenditures presented in the "Revenues and Expenditures" graph. Hence, many of the same variables that drive expenditures also drive the share of transfers to the state budget. Previously, oil prices and rules governing deposits and withdrawals were outlined as important drivers of expenditures.

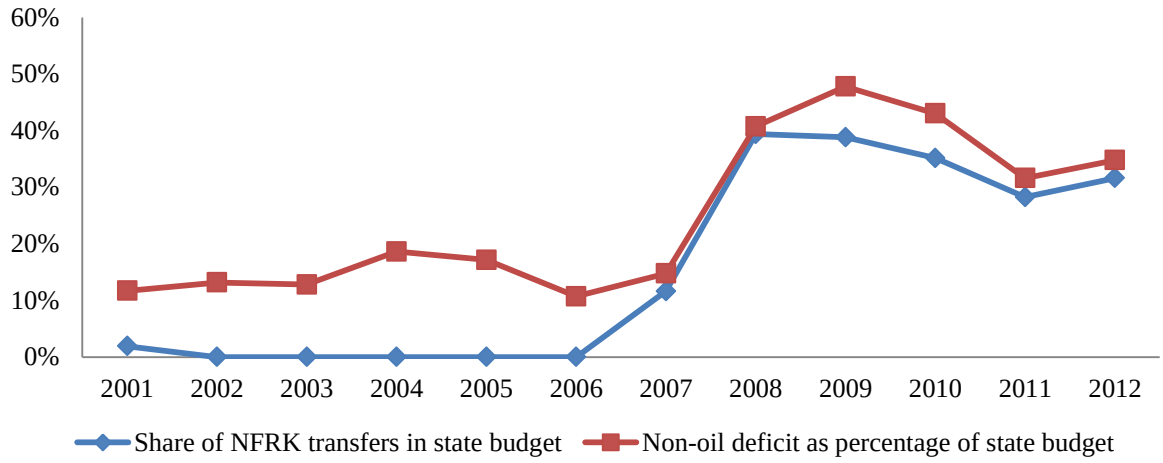
The share of transfer is also dependent on the size of the national budget (denominator). Due to the increase in the state budget (denominator), larger state transfers (numerator) are needed to give the same share. In general, the state budget has increased each year, growing more than ten times since the fund's inception. In nominal values, larger transfers are needed to produce the same share in later years, compared to previous years.

The rules governing the NFRK do not clearly define whether the fund is used for budget balancing purposes. In order to determine whether the fund is used for budget balancing purposes, we use the IMF (2013c) figures for the Kazakhstani government fiscal operations

for the period 2001-2012. The non-oil deficit as a percentage of state revenues is calculated using IMF figures and is expressed in the graph below.

The presentation of the budget of Kazakhstan is complex and is thus problematic to calculate the non-oil deficit. The layout used by IMF (2013c) of fiscal operations distinguishes between government revenues from oil and non-oil. Therefore, we can calculate the non-oil deficit for government fiscal operations.

FIGURE 10: NFRK TRANSFERS AND BUDGET BALANCING



Source: NFRK annual reports 2001-2012; own calculations

Even if the transfer to the state budget is zero, the fund is used indirectly to balance the budget. Each year there is non-oil balance deficit. The way we see it, the deficit will be covered by oil revenues in two potential ways; either as oil revenues budgeted directly or as transfers from the NFRK. We previously attempted to elaborate this issue by stating that the fund is not "fully integrated" with the budget. By studying Figure 10, we can identify that there has been a non-oil deficit, even for years in which there have been no official transfers according to NFRK statements[29]. Oil revenues have been used to cover the deficit, but they have not been registered as transfers from the fund. In 2007 and 2008 on the other hand, our measures seem to indicate that NFRK transfers are the main source for covering the non-oil deficit. This is also evident in the period 2009-2012.

[29] In years 2002, 2003, 2004, and 2005

To summarize our findings on budget balancing, the NFRK transfers (as reported by NFRK) seem only to be driven by the non-oil budget deficit following 2007. Prior to that, the non-oil deficit seem to be covered by oil revenues that were directly budgeted – that is – oil revenues that were never deposited in the fund.

5.1.2. TRANSPARENCY

OWN FINDINGS

OBJECTIVE, STRATEGY, AND POLICY ON TRANSPARENCY

The main objective of the fund, together with the investment strategy, is available to the public. The main investment objective is to invest capital so that the international purchasing power of the fund is maximized, given an acceptable level of risk (Ahmadov et. al, 2011). The fund's strategy is twofold. Firstly, the stabilization portfolio has high liquidity, so that assets are readily available for utilization in the short run. Secondly, the savings portfolio is a mean for maximizing long-term returns. It is central that the objective and strategy is available, as the others ought to know the position of the fund in the overall context of resource wealth management.

Even though the fund expresses the importance of transparency, the fund does not present clear guidelines for transparency. Reports do not include statements on the topic of transparency. More specific measures and policies can be aimed at improving the level of transparency, and could be fronted more explicitly.

LEGISLATION AND OPERATIONAL RULES

Some of the rules and regulations governing the NFRK are actually inspired by the Norwegian Global Pension Fund Global. One of the main differences between the Norwegian and Kazakhstani model is that the NPFG expenditure is intended for a non-oil budget deficit. The NFRK provides *guarantee* payments to the national budget. The main criticism is that the process of determining these payments is politically influenced, rather than based on economic sense (Ahmadov et al. 2011). The rules governing the inflows to the fund have also come to criticism for being more complicated in practice than the rules initially were set out to be.

The fund's rules are established by presidential decrees, and not by an act of the parliament (Revenue Watch Institute 2014). The operational results and obedience to rules are essentially at the discretion of the President rather than being subjected to democratic control.

PUBLIC AVAILABILITY OF INFORMATION

This study is based on publications on the fund released by the government and governing bodies of the NFRK. Below, the main publications on National fund are listed.

- Annual reports/statements of total assets value, receipts (revenues) and applications (expenditures) of the NFRK in Russian and Kazakh from 2001 to 2012. Annual statements of receipts and applications of the NFRK have been published in English since 2006.
- Monthly reports/statements of total asset value, receipts (revenues), and application (expenditures) are available from January 2012.
- The National Bank of Kazakhstan publishes an annual report including a small section on the National fund.
- Press releases

Earlier we have referred to NFRK reports, but these "reports" are very simplistic. In fact, a more appropriate description would be a "statement of asset value, revenues and expenditures"[30]. For the sake of simplicity and conformity across the three funds, these documents are commonly referred to as "reports" in this thesis. The statements include total assets of the fund, revenues and expenditures, and the return on its investments. The NFRK has its own web site through the Ministry of Finance where the statements are published. Other than the annual and monthly statements of receipts and application, the website contains very limited information. Presidential Decrees and resolutions that govern the fund are available through databases such as Adilet[31].

The NFRK reports do not contain explanations to the data, nor is the data sufficiently disaggregated. As an example, investment income is given as an aggregate sum and not divided into returns by portfolio, returns by types of investments, returns by geographic areas,

[30] The actual document published on the Ministry of Finance website is called "statement of receipts and application of the National Fund".
[31] Adilet is an online resource, performing official publication of laws and orders of Ministers of the Republic of Kazakhstan. Link: www.adilet.zan.kz

or the like. The investment income should be divided into interest income and interest expense, and not be given as a total. In terms of quantity, there is a lack of information.

The quality of information presented in the reports is also inadequate. Explanations that are essential to the understanding of figures are left out. Simple explanations on how the figures are derived, and the basis for the numbers would increase the quality of information drastically. Notes or explanations of accounting principles, measurement of financial instruments, estimates, benchmarks, currency distributions, exchange rate adjustments, auditing practices, and risk, are some elements that are typical for other resource fund, but not included in NFRK reports.

Analysts that want data on assets disaggregated by portfolio, geography, or the like, must refer to the National Bank reports, but even in these reports the information is in our opinion incomplete and inconsistent.

A final point on publicly available information is the issue of language. Publications in local language (Russian and Kazakh) enhance domestic transparency, and are a main priority as domestic transparency enhances accountability towards the Kazakhstani people. The NFRK should however also display transparency towards *international* markets. Transparency towards international markets is important because it allows for benchmarking and comparisons towards international good practices and other resource funds.

ACCOUNTING AND AUDITING

Our findings suggest that internal audits are carried out regularly, but the results are not published. External independent audits are supposedly carried out annually and correspond to international standards according to the National Bank of Kazakhstan. Ahmadov (2011) claim the audit results are published in "local press". Revenue Watch Institute (2013), on the other hand, argues that the reports are not published at all. In any case, we have not been able to locate audit reports or audit results of the fund.

Related to transparency and auditing of the fund is the trustworthiness of publications. Earlier in this paper, it was evident that the lack of transparency had implications for the findings and analysis of budget control. Information from NFRK reports/statements limited our analysis on

budget control. For this reason, another source of information was used in order to supplement, understand, and make a comprehensible use of the data[32].

APPOINTMENT OF OFFICIALS AND MANAGERS

The president approves all the members of the board, and all the members are government officials (Ahmadov et al. 2011). This highlights a structural weakness of the fund. The president's position in governing the fund restricts its independence. As Ahmadov et al. (2011, p. 112) points out: "If transparency of the oil fund is to be established in a credible manner, the structure of the fund management needs to be more representative and less dominated by the government".

MEASURES OF TRANSPARENCY

LINABURG-MADUELL TRANSPARENCY INDEX: 8/10

Unfortunately, it is not possible to track which of the ten principles the NFRK received its 8 points from, because the judgment of the principles is left at the discretion of the SWF Institute. Ultimately, it is implied by the Linaburg-Maduell index that the NFRK possess an adequate level of transparency.

By reviewing the ten principles, our findings support only six of the principles allocated to the NFRK[33]. The remaining four principles (principle #2, #3, #5, #9), obtain a zero- or partial score. If the index would award partial scores, the total score would likely be lower. Below is a short interpretation of the principles that are *not* fully satisfactory according to our own findings.

Principle #2: "*Fund provides up-to-date independently audited annual reports*" should only receive zero or partial score. Firstly, audit reports are not published. Secondly, reports lack information (both in terms of quantity and quality).

Principle #3: "*Fund provides ownership percentage of company holdings and geographic locations of holding*" should only receive zero or partial score because NFRK reports do not

[32] The additional source that we refer to is specifically IMF (2013c) country reports on Kazakhstan. The information collected from this source was collected for the purpose of analyzing NFRK's "budget balancing" ability in particular.
[33] Please refer to Appendix 4 for full list of Linaburg-Maduell principles.

contain this information. Annual reports by the National Bank include very limited information on geographic locations and ownership holdings.

Principle # 5: *"Fund provides guidelines in reference to ethical standards, investment policies, and enforcer of guidelines"* should only receive a partial score. Investment policies are provided, but the fund lacks sufficient ethical standards from our viewpoint.

Principle #9: "*Fund manages its own website*" can possibly be given a partial score. The fund and its reports are presented through the Ministry of Finance and the National Bank's web sites. For a better overview and easy-to-understand presentation of the fund, all information and reports could be united on one website.

In summary, we believe that the Linaburg-Maduell score for the NFRK likely to show a value that is too high for the NFRK.

TRUMAN SCOREBOARD: 9/14

Our own findings coincide with most of the scores given by Truman[34]. There are, however, a few points we want to make that are directed at the scores given for audit reports. Truman awards three out of three possible points for questions regarding audit reports. According to the scoreboard, the NFRK has regular (question 27), published (question 28), and independent (question 29) audits. This contradicts to our findings. We have not been able to locate audit reports or results. The authors of this thesis cannot assess the regularity, nor if the reports are independent or not, as reports are not published. Our findings on transparency suggest that audit reports exists, but are kept for internal purposes (Ahmadov 2011). It is beyond the scope of our transparency research to investigate internally distributed documents. The purpose of transparency is to be open in the disclosure of information. Regardless whether audit reports are conducted or not, they are kept at discretion to the public, which in turn reflects asymmetry of information. If one should be consistent with one's own findings on transparency, the Truman score for should be reduced by 3 points, from 9.0 to 6.0[35].

[34] See Appendix 5 for the 14 questions on "transparency and accountability", and raw scores for NO, KZ, and AZ. The discussion is particularly concentrated on scores for question 27, 28, and 29.
[35] Questions 27, 28, and 29 have a score of 1 each. Our findings suggest that this is reduced to 0 for all three questions.

COMMITMENT TO GOVERNANCE AND TRANSPARENCY INITIATIVES

EITI

Kazakhstan has committed to the Extractive Industries Transparency Initiative (EITI). Kazakhstan as of today is classified as a *compliant* member, meaning that it fulfills all criteria in the EITI standard. It has been a compliant country since October, 2013. It has been a *candidate* country since 2007. This means that for the larger part of the period in which we are studying (2001-2012), Kazakhstan *not* been a member of EITI. Kazakhstan has produced annual EITI reports since 2005, with the latest report for the fiscal year 2012. Kazakhstan's history with EITI shows a gradual commitment to more transparency, and gives hope for further improvements in the future.

SANTIAGO PRINCIPLES

The NFRK is not a part of the Santiago Principles for sovereign wealth funds.

5.2. STATE OIL FUND OF AZERBAIJAN

Azerbaijan realized in the early stages the importance to efficiently manage oil revenues generated from the many oil fields and to assign the assets to projects that contribute to socio-economic progress. Hence the State Oil Fund of Azerbaijan (SOFAZ) was founded by the Decree № 240 of Heydar Aliyev in December 1999 and approved by the Presidential Decree № 434 in December 2000.

The mission of the SOFAZ is to ensure an intergenerational equality by transforming depletable oil reserves into financial assets that can generate perpetual income for current and future generations. The fund's activities are directed toward the following objectives[36]:

- Preservation of macroeconomic stability, ensuring fiscal-tax discipline, decreasing dependence on oil revenues and stimulating development of the non-oil sector
- Considering that oil and gas are depletable resources ensuring intergenerational equality with regard to the country's oil wealth and accumulate and preserve oil revenues for future generations
- Financing major national scale projects to support socio-economic progress

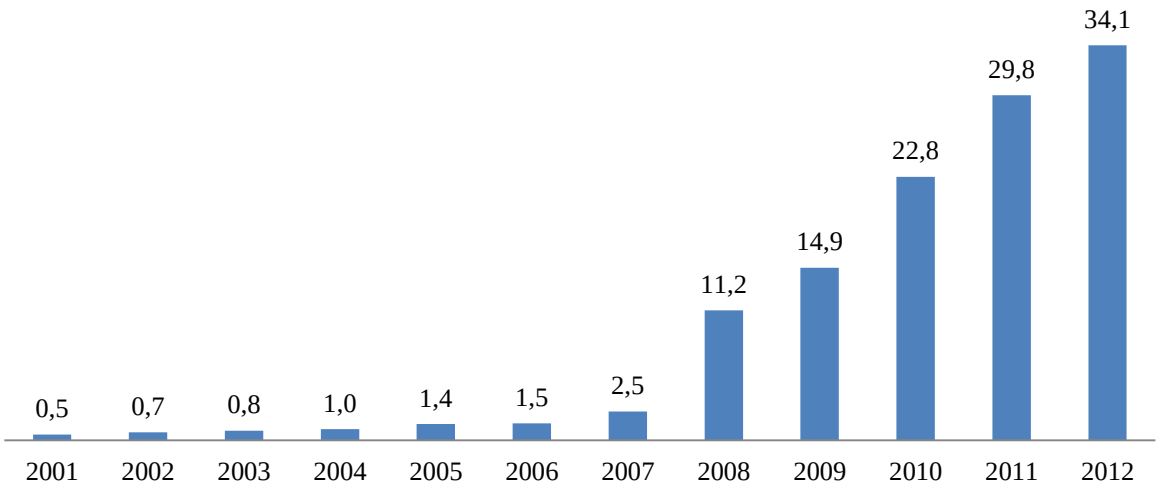
SIZE OF THE FUND

The growth in the SOFAZ assets started out slowly, before it grew substantially in 2008, as illustrated in the figure below. Despite the novelty of the fund, it has become an integral part of the economic development of Azerbaijan. The value of assets in the SOFAZ amounted to USD 491.5 million in 2001, and it slowly progressed the following years until the biggest growth was registered in 2008, where the value of assets jumped from USD 2475.4 million in 2007 to a whopping USD 11,219 million in 2008. As of 2012, the assets of SOFAZ amounted to USD 34,129 million, meaning that the fund has increased by 69 times since 2001, making the SOFAZ the 17th largest natural resource fund in the world (SWF Institute 2014). As a result of the flourishing progress of the SOFAZ, the share of the SOFAZ's assets in GDP has grown correspondingly. The GDP of Azerbaijan amounted to USD 66.605 billion in 2012 (World Bank 2014), which makes the value of the SOFAZ equivalent to 51.24 percent of Azerbaijan's GDP. In only five years, the influence of the fund relative to the country's GDP

[36] http://www.oilfund.az/en_US/about_found/meqsed-ve-felsefe.asp

has grown more than ten times, increasing from 5.1 percent in 2008 to 51.2 percent in 2012. Compared with NFRK, the SOFAZ share in GDP is relatively larger, but is still much smaller compared with NGPFG's share in Norway's GDP.

FIGURE 11: GROWTH IN SOFAZ ASSETS IN USD BILLIONS



Source: SOFAZ Annual Report 2012

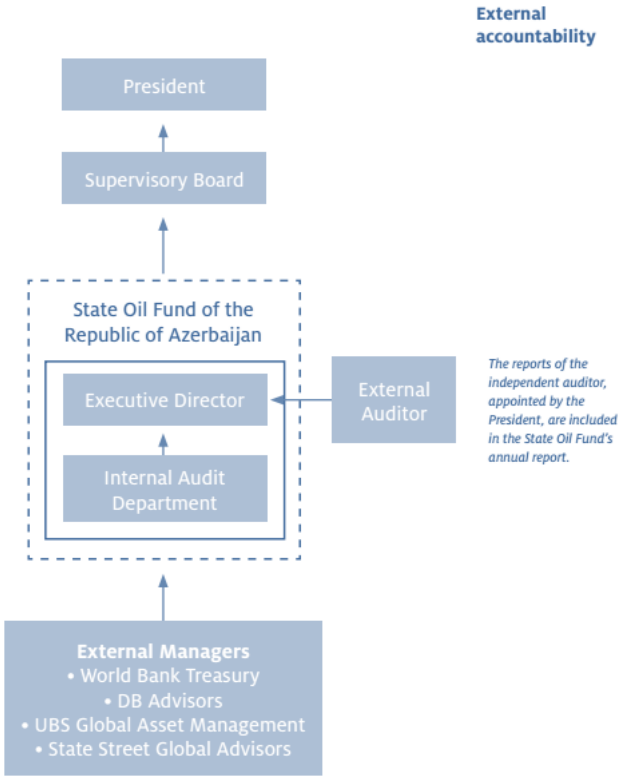
GOVERNANCE AND MANAGEMENT OF THE SOFAZ

The SOFAZ is an independent legal entity separated from the state budget. All legislation regarding the fund and the operation of the fund is under direct control of the President. The daily management of the fund is vested with the Executive Director, whom is appointed by and accountable to the President. The Executive Director of the fund acts as a legal representative of the fund, with the task of organizing and conducting business on the behalf of the fund, including appointment and dismissal of employees, management and payments of assets of the fund in compliance with the rules and regulations that is approved by the President. The Director is also responsible for the preparation of the annual budget of the fund, incorporating an annual program of the fund's assets utilization and its submission for the approval of the President.

The activities performed by the SOFAZ are overseen by a Supervisory Board. Members of the Board are appointed by the President of Azerbaijan, and consist of representatives from both legislative and executive branches, government ministers and members of the parliament. The

Board is to review the fund's draft annual budget, annual report and financial statements along with auditor's opinion and provide its comments. Although the management system of the SOFAZ is effective, there are however drawbacks, for instance that the Supervisory Board does not include representatives of civil society, nor does it include representatives of the business community. The role of the parliament is to approve or disapprove the main budget. However, the parliament's control over spending is limited since the parliament can neither draft nor amend the budget that is submitted by the Ministry of Finance. Ultimately, the establishment and operation of the fund has to go through one political agent - the President.

FIGURE 12: MANAGEMENT AND ACCOUNTABILITY OF THE SOFAZ



Source: Revenues Watch (2013)

RULES GOVERNING FUND DEPOSITS

The Supervisory Board exercises control over spending of the fund's assets. The Board's responsibility is to ensure effective management of assets that are generated from the field of oil and gas exploration in the interest of current and future people of Azerbaijan.

Revenues generated by the oil sector are to enter the fund. However, profit taxes that are paid by the national oil company, otherwise known as SOCAR, and international oil companies operating in Azerbaijan, are to directly enter the state budget. The structure of the SOFAZ' revenues include (SOFAZ 2014):

1. Proceeds generated under production sharing agreements from sales of the Republic of Azerbaijan's share of hydrocarbons;
2. Bonuses paid under the terms of production sharing agreements
3. Acreage fees paid by foreign investors for use of the contract areas in connection with the development of hydrocarbon resources
4. Dividends paid under the terms of production sharing agreements
5. Revenues generated from the transit of oil and gas over the territory of the Republic of Azerbaijan
6. Revenues generated from the transfer of assets from investors
7. Revenues from management of SOFAZ assets
8. Grants and other disinterested aid.
9. Other income

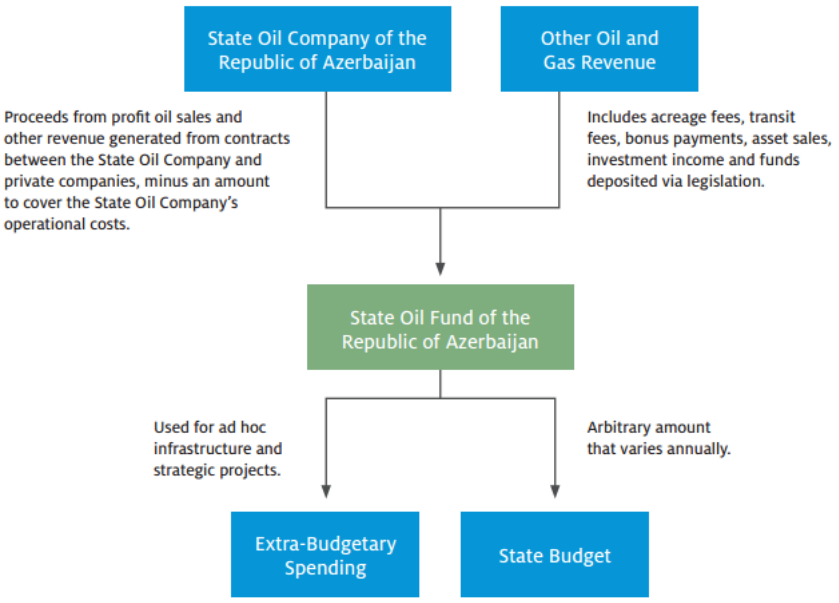
RULES GOVERNING FUND WITHDRAWALS

The guidelines for expenditure are quite broad and are thus open for interpretation, as previously listed as objectives of the fund. The Oil Fund's expenditure of the fund is divided into three major areas (SOFAZ Annual Report 2010): transfers to the national budget, expenditure on specific projects like infrastructure and social project funding, and administrative expenses, where transfers to the national budget account for the majority of spending. Specific projects in infrastructure and social funding are so-called extra-budgetary spending. Each year a program for expenditure is created and awaited for an approval by the President. Any expenditure besides the budgeted expenditure is inadmissible. The limit on the expenditure is set at an amount equal to the revenues of the fund in any year for the sake of preserving the nominal value of the fund.

A long-term strategy, approved by the Decree of the President № 128 in 2004, provides principles for managing oil and gas revenues and medium-term expenditures policy for the period 2005-2025. In the medium term, expenditure will be based on non-oil budget deficits. The assets transferred to the national budget are not earmarked to particular items; it is used for general budget support. The aim is for a non-oil deficit that is compatible with macroeconomic stability; however, there is no clear definition of non-oil deficit that is sustainable (Lücke 2010). In the long-term, a constant real expenditure principle shall be used as a basis. Once the revenue reaches its peak, a minimum of 25 percent of each year's revenue is to be saved by the SOFAZ (Bacon and Tordo 2006). The strategy on use of oil and gas revenues includes the following objectives while aiming at retaining macroeconomic stability (Ahmadov and Aslanli 2011):

- Developing the non-oil sector, regions and SMEs
- Large-scale development of infrastructure
- Fulfillment of poverty reduction measures and the solution of other social problems
- Stimulating the improvement of the intellectual, material, and technical base of the economy;
- Development of "human capital"
- Consolidating the defense capabilities of the country
- Executing projects relating to reconstruction activities in liberated territories and the return of internally displaced persons to their native lands

FIGURE 13: FLOW OF REVENUES OF THE SOFAZ



Source: Revenues Watch (2013)

INVESTMENT STRATEGY

The fund's investment portfolio is managed in accordance with the Investment Guidelines. The Executive Director determines the investment policy, guided by opinions by the Supervisory Board. Ultimately, the policy will be approved or rejected by the President. According to these guidelines, the SOFAZ assets may be invested in bank deposits, government securities, securities issued by countries, securities issued by international financial institutions and debt obligations. The investment strategy of the SOFAZ is rather conservative, consisting mainly of low-risk items like government bonds and other fixed income securities. The investment portfolio policy states that minimum 85 percent of the portfolio should be invested in debt obligations and money market instruments portfolio, up to 15 percent in equity portfolio, 5 percent in real estate portfolio and 5 percent in gold portfolio.

5.2.1. BUDGET CONTROL

REVENUES AND EXPENDITURES

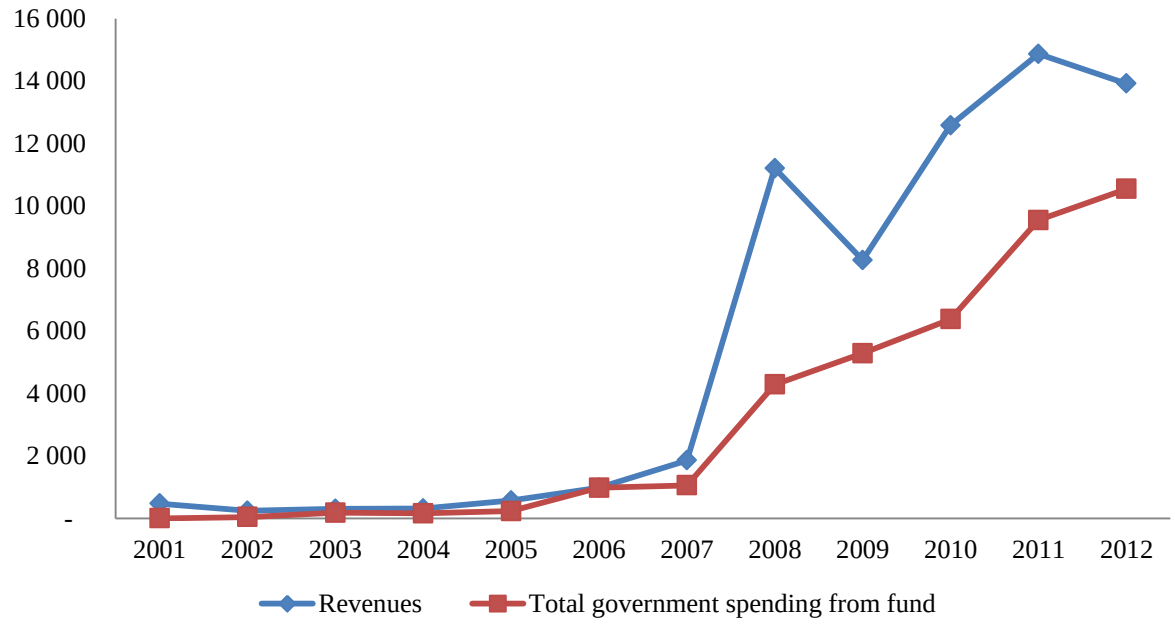
The revenues in the graph below represent all inflows to the fund. The majority of revenue inflows stem from proceeds from profit on oil and gas sales (95.92 percent in 2012) and from management of the fund's assets (3.98 percent in 2012). Again, taxes paid by international oil companies are to directly enter the state budget. Similar to the progress of NFRK, there was little accumulation of revenues the years following the inception of the SOFAZ. There were, however, exceptions where oil revenues accumulated in the fund were to be used on housing for refugees following conflicts between Azerbaijan and Armenia, as well as financing BTC pipeline. This is evidently seen in the graph below where the two lines fluctuate to a lesser degree in the commencing years. The revenue inflow of the fund gradually increased until 2008, where revenues went from approximately AZN 1850 million in 2007 to AZN 11200 million in 2008. The revenue increase can be explained by the windfall in oil prices, joint development of hydrocarbon resources with foreign companies, as well as revenues generated as a result of the construction of BTC pipeline (SOFAZ Annual Report 2012). As previously discussed, petroleum earnings is a volatile source of revenue. This is clearly evident following the drop in oil prices as a result of the global financial crisis. Subsequently, the revenues in 2009 fell abruptly, decreasing from AZN 11200 million in 2008 to AZN 8270 million in 2009. However, the SOFAZ quickly increased its revenues annually before again facing a recession in 2012, following the path of the oil price.

Expenditures in the graph below represent all outflows from the fund. Rules regarding withdrawal amounts and timing are rather obscure. Putting it differently, withdrawals are made arbitrarily and differ from year to year. Not only does the SOFAZ transfer its revenue to the state budget, but it also makes direct payments to projects that are ultimately decided by the president. The majority of the fund's expenditures are transfers to the state budget, which account for 93.7 percent of total expenditures of the fund in 2012, followed by projects set forth by the president, human capital development program and administrative expenses.

There were little withdrawals from the fund the beginning years as viewed in Figure 14**.** This can be explained by the fact that the fund was required to accumulate for five years before the government was allowed to make withdrawals from the fund (Kalyuzhnova 2006). The spending rapidly increased in 2007 following the increase in revenues. Spending has

continued to increase relative to the revenues the following years. The spending of the SOFAZ during the global financial crisis deserves certain attention. Prior to the crisis, there was a surge in oil prices, subsequently leading to increased oil revenues. But when the crisis hit, oil prices fell, and the revenues fell abruptly. For stabilization purposes, the spending gradually continued to increase during the same period. Another incident to examine is how the expenditures of SOFAZ have, since its inception, remained below the revenues, until 2006 where expenditures slightly exceeded revenues. Expenditures amounted to AZN 980,190 million while revenues amounted to AZN 979,850 million. This can, again, be explained by for instance the construction of the BTC pipeline and spending in public sector. Accordingly, the spending remained below the revenues since its inception besides the incident in 2006. This does not conform to the rules of the SOFAZ, stating that the SOFAZ's expenditures are not to exceed revenues for the sake of preserving the nominal value of the fund.

FIGURE 14: SOFAZ'S REVENUES AND EXPENDITURES IN AZN MILLIONS



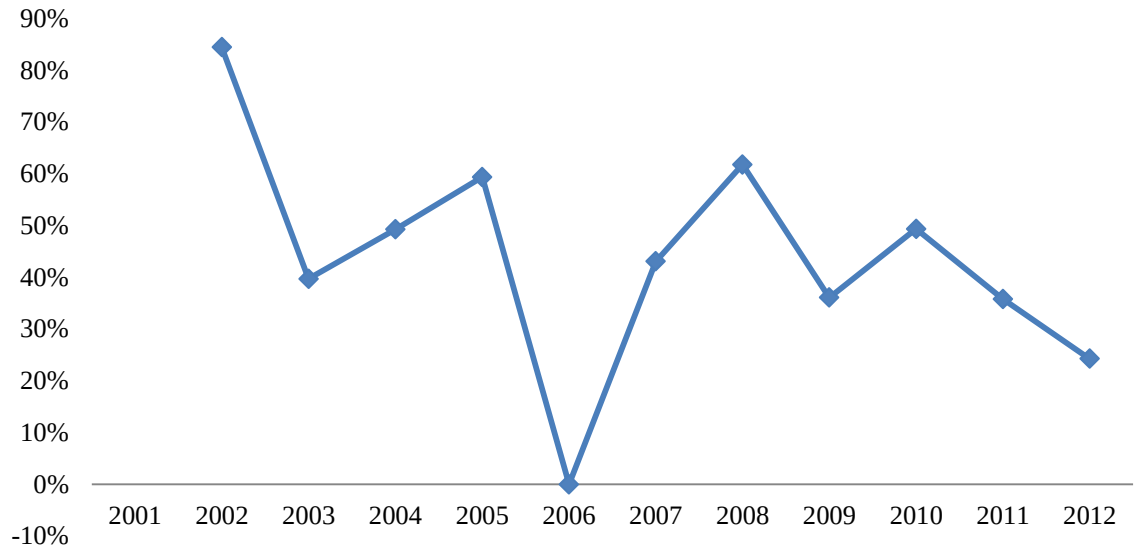
Source: SOFAZ Annual Reports; own calculations

SAVINGS

The difference between revenues and expenditures equals savings of the fund. Revenues have exceeded expenditures every year besides the incident in 2006, resulting in increasing asset value every year. There was little surplus in the beginning years of the fund, however the fund

did manage to save some of its revenues. The long-term-strategy determined by the Presidential Decree stated that 25 percent of the revenues are to be saved once revenues have reached their peak. According to Energy Information Agency (2013a) and Center for Economic and Social Development (in Waal 2013), the revenues peak was reached in 2010. However, this rule has already been met for all the years following the fund's inception, with the only exception being in the year 2006. The fund managed to save approximately 40 percent of the revenues in 2003, and it continued to increase by around 10 percent the following years before 2006, a year in which the expenditures slightly exceeded revenues, resulting in a loss. What is increasingly alarming is the pattern of expenditures relative to the revenues. Although savings sharply increased following 2006, the pattern of the fund's savings has been negative, or declining. Since 2008, the savings rate of the fund has decreased from around 60 percent to 25 percent in 2012. Even though the annual report for 2013 has yet to be released, quarterly reports have been published, in which the fund states that the budget revenues exceeded 13.6 billion manats while the budget expenditures exceeded 12.3 billion manats between January and December in 2013 (Jafarova 2014). For that reason, the SOFAZ is able to save merely 9.56 percent of the inflows. Therefore, the Presidential Decree of 2004 is breached, in which the fund was not able to save 25 percent of its annual revenue.

FIGURE 15: SOFAZ'S SAVINGS AS PERCENTAGE OF REVENUES



Source: SOFAZ Annual Reports; own calculations

INDICATORS FOR EXPENDITURE SMOOTHING– CORRELATION COEFFICIENTS

Firstly, we look at the state's overall ability to smooth expenditure. As defined by Humphreys and Sandbu (2007) it is the relationship between the oil revenue to the state and the total budgetary expenditures. The first correlation uses IMF (2013b) figures:

Correlation (year-to-year change in government expenditure, year-to-year change in oil revenues)
= **0.681**. [37]

The correlation is high, which indicate a low ability to smooth expenditure. It is an indication of a government that spends more as it earns more windfall oil revenues. It can be implied from this that SOFAZ is not used in a fashion that promotes expenditure smoothing. A similar coefficient can be calculated by using SOFAZ report figures:

Correlation (year-to-year change in fund revenues, year-to-year change in fund expenditures)
=0.666

Also this correlation is high, which again indicate a low ability to smooth expenditure. Earlier, we saw that SOFAZ expenditures have, more or less, trailed the funds revenues. There is little spending when revenues are low, but spending is increased when revenues are high. The intention of expenditure smoothing is exactly the opposite.

The correlations are positive and relatively high for both, confirming the findings of Humphreys and Sandbu (2007) that expenditures in resource-rich countries correlate highly with fluctuations in revenues.

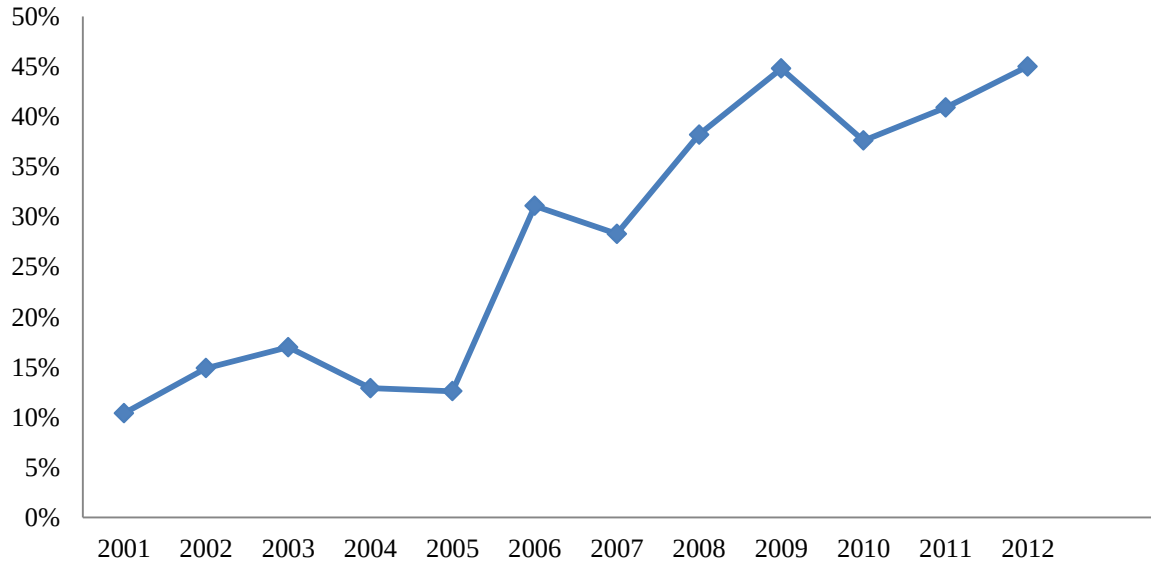
BUDGET BALANCING

Previously in section 5.2.1, we discussed that in the medium term, withdrawals from the fund are determined by the non-oil budget deficit, which is not to be sharply changed. And in the long-term, expenditures should follow a constant, real expenditure pattern. The rules of the SOFAZ do not specify the size of transfers to the state budget, nor are the transfers earmarked for particular items, meaning that the transfers are open-ended. Therefore the amount to be transferred to the state budget is closely determined by the non-oil budget deficit, with the

[37] Figures for years 2001 and 2002 are missing in IMF (2013b) country reports.

notion that the transfers are not to exceed the annual revenue. And for that reason, transfers to the state budget and subsequently government spending has been dramatically high. For instance, following the increase in international oil prices, the non-oil deficits as a percent of non-oil GDP of Azerbaijan was 12.6 percent in 2005 before increasing to 28.3 percent in 2007 (IMF 2013b), 40.9 percent in 2011 and could increase from an estimated 45.0 percent in 2012 to 47.0 percent in 2013 (IMF 2013b). The pattern of the non-oil deficit is thus similar to the share of the SOFAZ transfers in the state budget.

FIGURE 16: NON-OIL DEFICIT AS PERCENTAGE OF NON-OIL GDP IN AZERBAIJAN

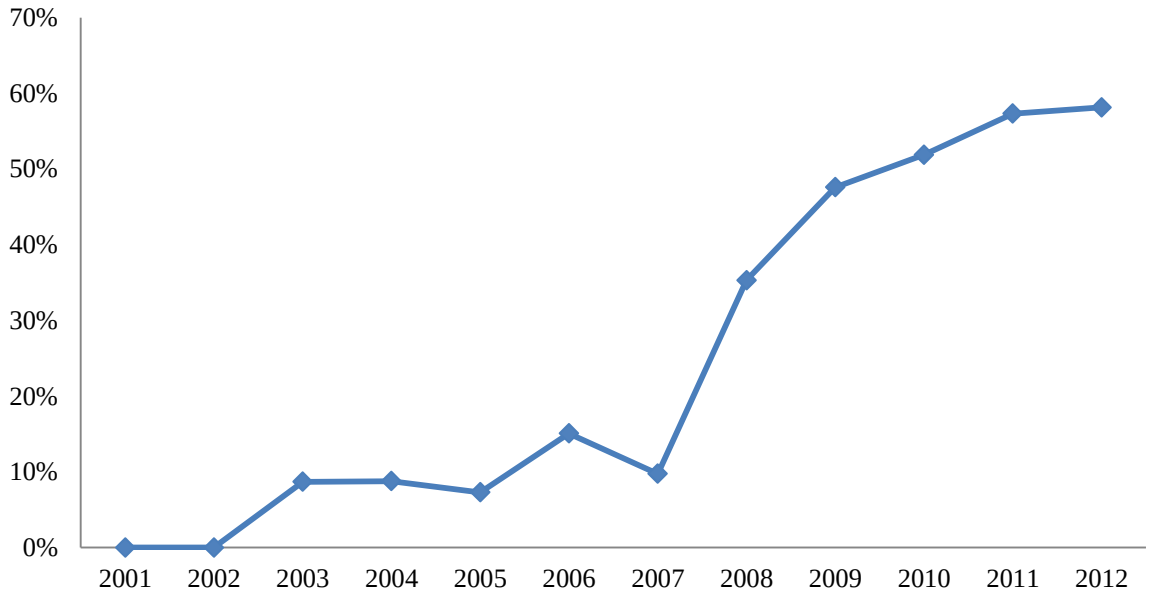


Source: IMF (2013b) country reports; Azerbaijan

The share of the SOFAZ transfers in the state budget was insignificant in the beginning years of the fund. Even though it was stated that the government was not allowed to make withdrawals from the fund the first five years, there are, however, evidence of transfers to the state budget, as seen in 2003 in Figure 17 below**.** This gave a start to the relationship between the oil fund and the state budget. Following the pattern of the oil prices and correspondingly the oil revenues, the transfers to the state budget steadily increased before the transfers increased dramatically from 10 percent in 2007 to 35 percent in 2008. The transfers continued to increase as a reaction to the global financial crisis, an occurrence that also resulted in a fall in oil prices. Share of transfers consequently exceeded 50 percent during the crisis, and the relationship between state budget and transfers from the SOFAZ is further increased as 58 percent of the state budget in 2012 is originated from the SOFAZ. In addition, prior to 2008,

transfer to state budget only accounted for 50-60 percent of total expenditures of the fund. But according to the SOFAZ's annual reports, the majority of expenditure of the fund has, since 2008, been on transfers to the state budget, which accounted for 88 percent in 2008 and further increased to 93.7 in 2012. In other words, the global financial crisis has led to an increase in spending of the SOFAZ's assets and a heavy increase in transfers to state budget.

FIGURE 17: SHARE OF SOFAZ TRANSFERS IN STATE BUDGET



Source: SOFAZ Annual reports; own calculations

5.2.2. TRANSPARENCY

OWN FINDINGS

OBJECTIVE, STRATEGY, AND POLICY ON TRANSPARENCY

Transparency has, since the inception of SOFAZ, been a key principle.

"Transparency will become one of the major grounds of our success. As you may know, Azerbaijan joined the international transparency initiative. It will bring about efficient management of the future oil revenues and allow every citizen of Azerbaijan to feel it in his or her daily life" – Ilham Aliyev (Annual Report SOFAZ 2012).

The goals of the SOFAZ are clearly defined on the fund's website as well as in the annual reports. Again the goals are to support socio-economic progress, equality for current and future generations and preservation in macroeconomic stability.

LEGISLATION AND OPERATIONAL RULES

The Supervisory Board exercises control over spending of the Fund's assets. All legislation regarding the fund and the operation of the fund is under direct control of the President.
The SOFAZ operations are rule-based; however there are some areas that are rather unclear. Even though there are rules stating what the revenues that flow in are and to a certain degree the amount that flows out, the fact that the fund does not clearly define the expenditure tag once assets are transferred to the state budget can end up dissolved in the budget revenues and thus difficult to track.

PUBLIC AVAILABILITY OF INFORMATION

In order to coordinate and manage the Fund's public relations, the Information Policy was adopted in 2007 with the approval of the Executive Director. The purpose of the policy is to meet the demands of the public for information regarding management of the fund and to further develop the fund's reputation as a transparent public organization. The main principles are the following[38]:

- Observance of the laws of Azerbaijan Republic and the norms and standards regulating the freedom of the information
- Protection of the fund's interests ensuring transparency of the fund
- Provision of the information to the public providing protection of the principle of fairness in the attitude to mass media
- Ensuring accuracy and reliability of the disclosed information
- Confidentiality of the information not belonging to the fund

Their website provides very detailed reports, both in Azerbaijani and English, of all relevant legal material for the purpose of enhancing transparency. The website also provides detailed

[38] http://www.oilfund.az/en_US/metbuat-gusesi/ictimaiyyetle-elaqeler.asp

reports for all years and Presidential Decrees since the start of its operations in 2001. Reports that are published include quarterly statements, annual reports, auditor's reports, several EITI reports[39]. The SOFAZ reports quarterly in the press and annually on the website on the total amount of assets, detailed information on revenues and expenditures and interest earned by the fund. Specifically, details regarding revenues include the amount that is deposited and the source of the deposited revenues. In other words, the annual reports have comprehensive information on the structure of the revenues. Annual reports also have comprehensive information on expenditure regarding the size of the expenditure and the structure. However, one drawback is the lack of details regarding transfers to the state budget.

Included in the reports is comprehensive information regarding the SOFAZ's investment portfolio and performance. Various portfolios are broken down in detail like the fixed income, investment by geographical distribution, bonds by credit rating, real estate and currency. Measurement of financial instruments, estimates, benchmarks, currency distributions, exchange rate adjustments, auditing practices, and risk are also presented.

ACCOUNTING AND AUDITING

Regular auditing of the fund is performed regularly. It is both audited by the Audit Chamber of the Azerbaijan Republic and by an independent international auditing company. In line with the Public Procurement Law, the fund selects its auditor by conducting open market tender processes. Previously renowned international companies that have audited SOFAZ include Deloitte, AGN Mak Azerbaijan LTD, Moore Stephens and Ernst and Young (Ahmadov and Aslanli 2011). Recently, the SOFAZ selected new independent auditor for 2013-2015 to be PricewaterhouseCoopers (PwC). According to Ernst & Young, SOFAZ's independent auditor for 2012, SOFAZ's financial performance and cash flows are in accordance with International Public Sector Accounting Standards (Annual Report SOFAZ 2012).

APPOINTMENT OF OFFICIALS AND MANAGERS

The fund has been characterized as representative and participatory. The President is the ultimate political agency that approves all members of the board. In addition, the Executive

[39] There are EITI reports by governments, independent accountant's EITI reports and reports written by EITI.

Director, internal and external audit are also to be approved by the President. Furthermore, a representative of civil society organization must have a seat on the Supervisory Board of the fund, according to Article 5.4 of the SOFAZ which was approved by Presidential Decree #434 in 2000. However, there are no representatives of civil society organizations at Supervisory Board of the fund. According to the 2012 annual report, "the Supervisory Board is headed by Prime Minister and consists of the Vice-Speaker of parliament, Minister of Finance, Minister of Economic Development, Governor of the Central Bank, the Economic Advisor to the President and the President of National Academy of Sciences" (Annual Report SOFAZ 2012, p. 135) In other words, the management of the fund is heavily represented by the executive branch.

MEASURES OF TRANSPARENCY

LINABURG-MADUELL TRANSPARENCY INDEX: 10/10

The SOFAZ is considered very transparent, as it scores a remarkable 10 out of 10 possible points (for the principles, see Appendix 4). Given that the SOFAZ is still considered a novel fund, this is considered a great achievement.

Corresponding with our findings of the SOFAZ, we agree that the SOFAZ meets the principles and requirements that are set by the Index. The annual reports provide detailed information regarding structure of ownership and the source of wealth. Independent audits are reported both quarterly and annually. Detailed information is provided on investment guidelines, portfolio market value and returns and geographic locations of holdings. The quality of information is of high standards. Not only are the figures provided and explanations on how they are derived, but it is illustrated in graphs and tables for putting it in perspective.

A drawback we would like to mention is that there are no principles covering the appointment of managers and members, as this area is dubious in the SOFAZ.

TRUMAN SCOREBOARD: 13/14

SOFAZ scores 13.00 points of 14.00 possible on Truman scoreboard section on *transparency and accountability*. The SOFAZ has a full score on each aspect besides questions 22 and 23,

where SOFAZ scores 0.5 on each. After studying the annual reports of the SOFAZ, we agree upon the score that the SOFAZ has received besides the score regarding geographic location (question 22). The requirement for acquiring full score is uncertain, however the score does not reflect our findings and we believe that the SOFAZ should receive at least a score 0.75 for this aspect. For instance, the information concerning geographical distribution includes which sector in the world that is invested and the percentage of investments in the areas, where for instance more than 60 percent of the investments are distributed to Europe. But a reason that the fund did not get a full score might be the lack of details of the specific countries in the different sections.

COMMITMENT TO GOVERNANCE AND TRANSPARENCY INITIATIVES

EITI

The Azerbaijani President, Ilham Aliyev, decided in 2003 for the government of Azerbaijan to join the EITI in which Azerbaijan volunteered to become a pilot country. The Cabinet of Ministers of Azerbaijan followingly established the Committee of EITI, chaired by the Executive Director of SOFAZ. Azerbaijan has produced EITI Reports since 2003. As evident, Azerbaijan first became a member in 2003, before becoming an EITI candidate in 2007, following the completion of initial EITI requirements before becoming the first EITI Compliant after passing the Validation process in 2009.

As a result of the commitment of Azerbaijan and SOFAZ to the EITI standards, the SOFAZ subsequently won an award in 2007 for the United Nations Public Service Award in the category of "Improving transparency, accountability and responsiveness in the Public Service" (EITI 2007). In addition, the SOFAZ is the first governmental agency in the Eastern Europe to win such a highly-recognized award.

As for such, one advisor to the Finance Ministry admitted that the SOFAZ “is set up well institutionally and indeed very transparent” (Wallwork 2013, section 4). Wallwork (ibid) also suggests that if members of civil society in Baku are asked, they will probably reluctantly admit that “SOFAZ’ claims at behaving in a transparent manner, in line with its EITI obligations on disclosure of fiscal transactions are broadly backed up by reality.”

SANTIAGO PRINCIPLES

The SOFAZ has a relatively long track record in the International Forum of Sovereign Wealth Funds (IFSWF) although it was only established in 2009. Again, IFSWF is a voluntary group of sovereign wealth funds (SWF) in which the different funds gather to discuss and exchange views on the Santiago Principles. The SOFAZ is an active member of IFSWF and has actively participated in its meetings. In fact, the inaugural meeting of IFSWF was held in Baku, which was organized by the government of Azerbaijan and by the SOFAZ. In accordance with Santiago Principle №24, the SOFAZ released its first report on the application of Santiago Principles in 2011. At the time of the fund's first report, the compliance score of SOFAZ was 60%. However the score has increased to 71% in 2013. Compared with the other SWFs, the SOFAZ is relatively compliant, scoring higher than funds like Singapore and Botswana, which are known to be fairly adequate funds. Areas for improvement are for instance to include representative of civil society organization in the Supervisory Board and to have clearer rules limiting transfers to the state budget in order to gain higher score.

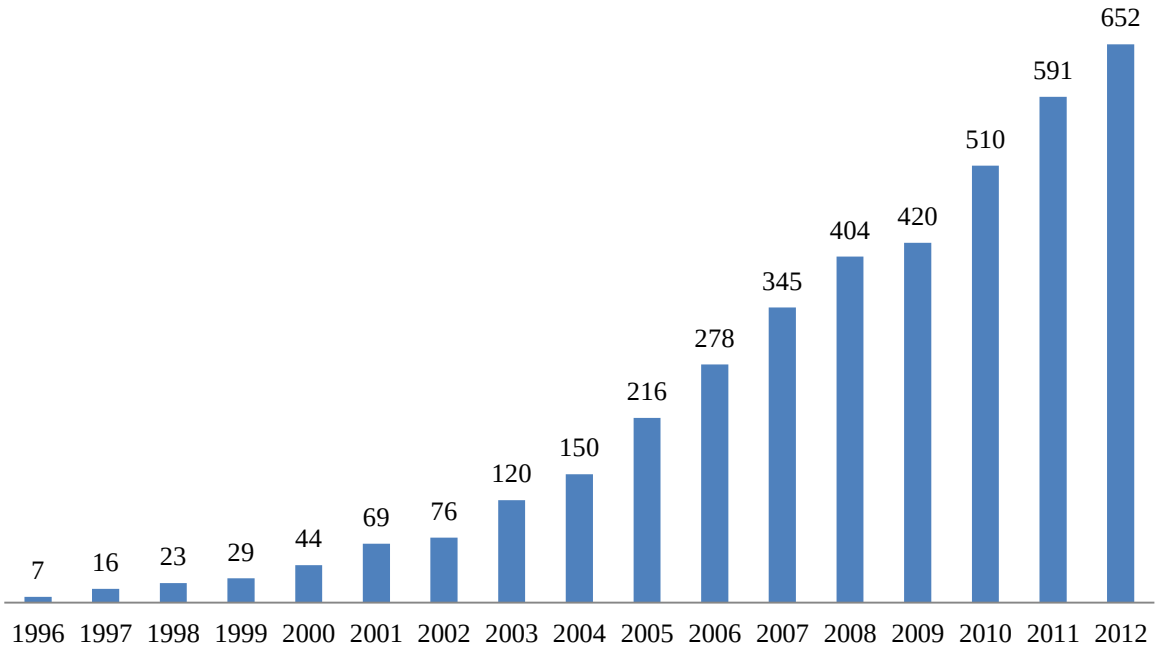
5.3. NORWEGIAN GOVERNMENT PENSION FUND - GLOBAL

The sovereign wealth fund of Norway is comprised of two separate funds: Norwegian Government Pension Fund – Global (NGPFG) which holds the flow of net receipts from petroleum reserves, and Government Pension Fund – Norway (GPFN) which holds the assets and liabilities of the government's National Insurance Scheme. We will focus only on the former. The NRF of Norway was established in 1990 under the name "the Petroleum Fund of Norway" before it was changed to Norwegian Government Pension Fund – Global reflecting strategic issues regarding long-term economic prospects of the country and to strengthen the public's sense of ownership of the fund. The fund was established by the country's legislature in order to facilitate government savings and to smooth the effects of fluctuating oil prices, to finance rising public pension expenditures, as well as to promote long-term spending of petroleum revenues.

SIZE OF THE FUND

Even though the fund was established in 1990, the fund did not grow until 1995 due to budget deficits in the first half of the 1990s. Global recession around late 1980s and early 1990s had a major impact on the economy of Norway. The budget of the Norwegian government did not return to surplus until 1995 when the first allocation was made to the NGPFG. From then on, the assets of NGPFG grew significantly as depicted in Figure 18, showing that the assets grew progressively from USD 7.4 billion in 1996 to roughly USD 652 billion in 2012. With a value of USD 652 billion makes NGPFG the largest natural resource fund in the world, which is equivalent to 130 percent of Norway's GDP (USD 499.67 billion) as of 2012.

FIGURE 18: GROWTH IN NGPFG ASSETS IN USD BILLIONS



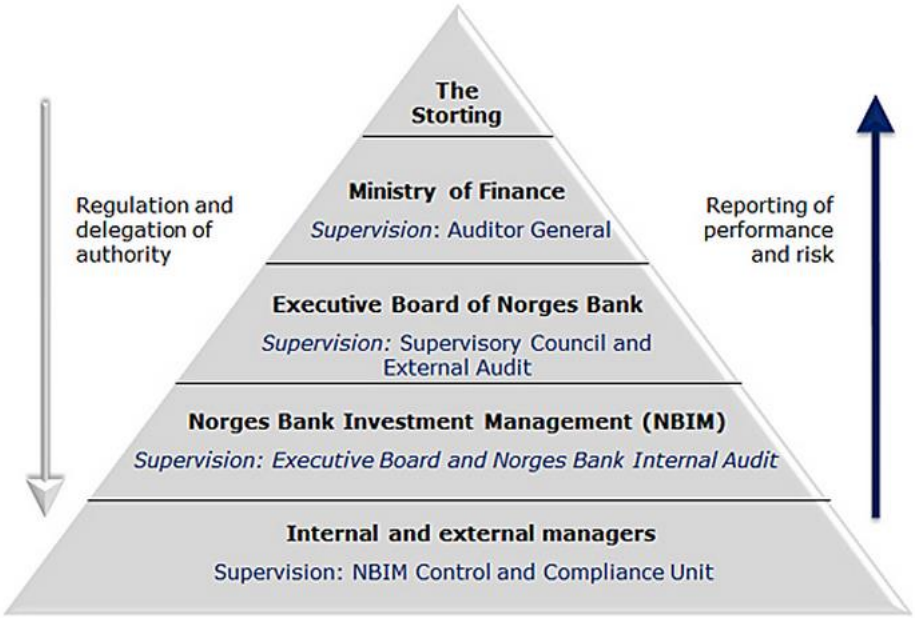
Source: Annual Report NGPFG 2012. Converted to USD; own calculations

GOVERNANCE AND MANAGEMENT OF NORWEGIAN GOVERNMENT PENSION FUND – GLOBAL

The NGPFG is not a separate legal entity, meaning that the NGPFG has no governing body. Similar to the management of oil in Norway where the decision making is delegated to many entities, the management of the NGPFG also includes many entities with different roles and responsibilities. The governance of the fund can be illustrated with a hierarchical pyramid. Duties and authorizations are delegated downwards while reports regarding risks and results are made upwards. At every level, there is a supervisory board in place for the sake of sound control. The Parliament (legislator) of Norway has, in the Government Pension Fund Act, made the Ministry of Finance (principal) formally responsible for the management of the fund. The ministry is also responsible for constructing a sound investment strategy following advice from Norges Bank Investment Management (NBIM) and discussions in the parliament, as well as the regulation of investment and its ethical guidelines. However operational management is delegated to Norges Bank Investment Management (manager), a division of Norges Bank (the Central Bank of Norway) and is accountable to the minister through the bank's governor and board. The ministry issues management mandate to Norges Bank describing investment framework and specifies requirements for responsible investment

practices. Norges Bank delivers detailed annual report on the management of the fund as well as quarterly reports containing return and costs data to the Ministry of Finance. In addition, Norges Bank also reports to an independent company that is hired by the ministry to make calculations of the fund's returns. The fund is audited by the Office of the Auditor General, which is appointed by and reports directly to the parliament. The financial performance of the fund is also audited by an external company, who currently is Deloitte.

FIGURE 19: GOVERNANCE STRUCTURE OF NORWEGIAN GOVERNMENT PENSION FUND – GLOBAL



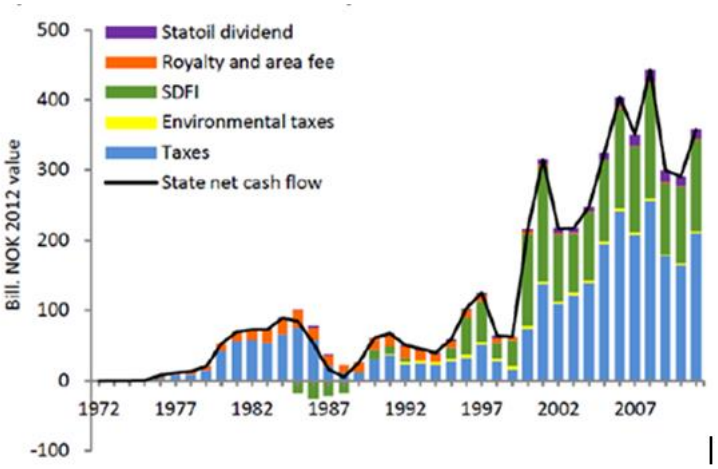
Source: Ministry of Finance Norway

RULES GOVERNING FUND DEPOSITS

All revenues that the state receives from the oil and gas sector enter the fund which is integrated into the state budget of Norway. The source of cash flows from the petroleum industry is illustrated in the graph below. The majority of the revenues stem from taxes on oil companies. Other revenues come from licenses to explore, the State Direct Financial Interest (SDFI) and dividends from the partial ownership of Statoil. The tax for oil operations in

Norway is 78 percent; this consists of a general income tax of 28 percent, and a special tax of 50 percent from petroleum production and pipeline transportation (BAHR, 2014)[40].

FIGURE 20: GOVERNMENT CASH FLOW FROM THE PETROLEUM INDUSTRY IN NORWAY



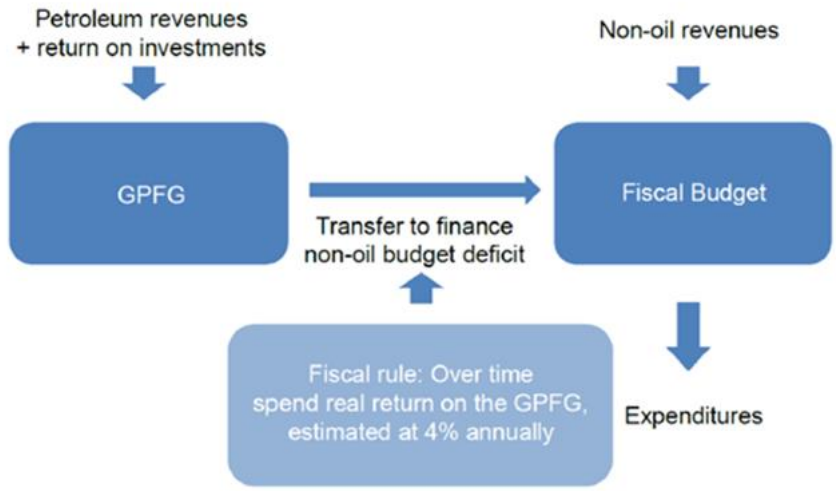
Source: Norwegian Ministry of Petroleum and Energy (2013b)

RULES GOVERNING FUND WITHDRAWALS

The central government budgets were forecasted to grow substantially by the end of 1990s due to the increase in petroleum revenues. The government would thusly have to establish some sort of fiscal guidelines for anchoring the use of petroleum revenues. As a result, the *budgetary rule* was introduced in 2001, which is a quantitative commitment by politicians to not spend more than 4 percent of the balance of the fund each year. In other words, over time the goal set by the government is to not exceed expenditures from the fund that exceeds the real interest of its investments (estimated at 4 percent). The *budgetary rule* does provide flexibilities for stabilization purposes, as business cycles fluctuate considerably. As a result, expenditures are not earmarked for specific purposes, but used to cover the deficit in the "non-oil" government budget which is decided by the parliament.

[40] See appendix 3: "Calculation of Petroleum Tax in Norway" for more info.

Figure 21: The Norwegian Government Pension Fund - Global and the Fiscal Rule



Source: Norwegian Ministry of Petroleum and Energy (2013b)

INVESTMENT STRATEGY

Mandate from the Ministry of Finance requires that all assets are to be invested abroad. By doing this, Norway avoids any potential effects of overheating domestic economy, otherwise known as the *Dutch Disease*. The investment strategy of the fund aims at diversifying the risk simultaneously as aiming at a high rate of return in the long run for future generations. The primary objectives of the fund are as following (Sovereign Wealth Fund Initiative 2012):

1) Invest new capital at the lowest cost possible
2) Maintain the market portfolio cost-effectively
3) Increase returns through active management
4) Safeguard assets by promoting good corporate governance and high social and environmental standards
5) Advise the Ministry on the fund's long-term strategy.

Investments are spread across 82 countries as of 2013 with Europe as the fund's main investment target. The fund has a target allocation of 60 percent (increasing from 40 percent in 2009) of its assets in equities, 35-40 percent in fixed income and 5 percent in real estate

(which was introduced in 2011). NBIM seeks to invest in specific sectors and companies that generate high returns over time and not to minimize fluctuations in the fund's returns.

A special feature of the NGPFG is the inclusion of an ethical council. A council on ethics evaluates if companies are consistent with the ethical guidelines of the fund. The ethical guidelines consist of two instruments: exercising ownership rights and excluding companies that do not meet the requirements from the fund. The fund can exclude companies based on the product, for instance products like weapon or tobacco, or it can be based on the conduct, for instance violations of fundamental ethical norms like human rights, corruption, and so forth. The council has excluded several companies, such as Wal-Mart, Boeing Company, Freeport-McMoRan Copper & Gold Inc. to mention a few.

5.3.1. BUDGET CONTROL

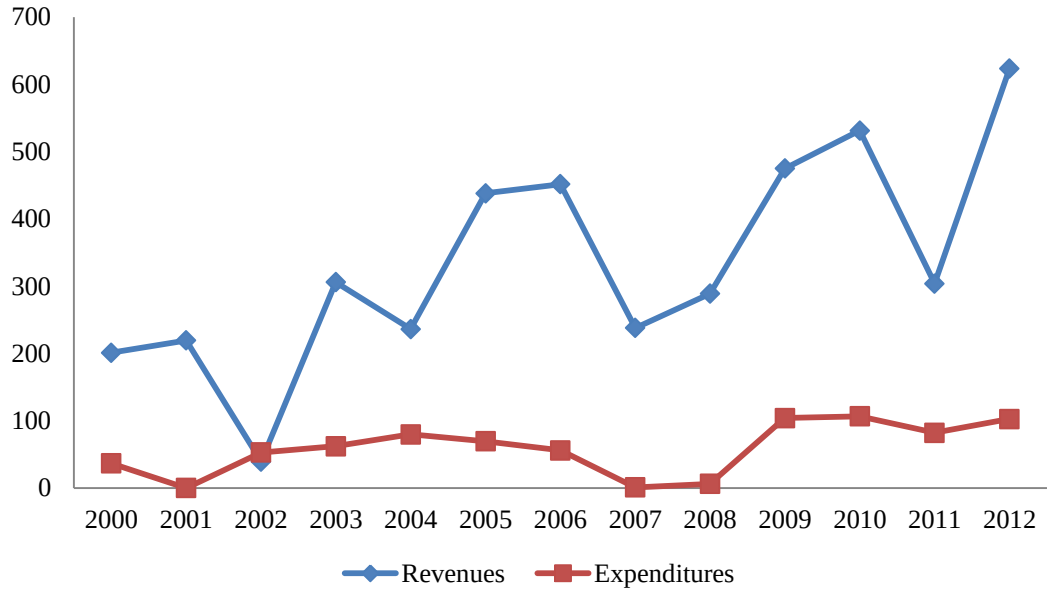
REVENUES AND EXPENDITURES

The inflow of capital to the NGPFG over a year is the state net income from petroleum sector[41], minus the transfers from the fund to the state. The net income from petroleum sector constitutes to the majority of revenue for the fund for all years. In addition to income from petroleum activities, the NGPFG reports highlights two other determinants to the market value of the fund: return on investment and exchange rate adjustments. Due to the size and investment strategy of the fund, the return on investment is substantial and fluctuates considerably. Exchange rate adjustments also affect the value of the NGPFG significantly. We define revenues for the NGPFG as net income from petroleum sector, return on investment, and exchange rate adjustments.

Expenditures are defined as transfers to the state budget plus management costs.

[41] The net income from petroleum sector is found in the state budget, and is defined as the state "income from petroleum activities" minus "expenses to petroleum activities".

FIGURE 22: NGPFG'S REVENUES AND EXPENDITURES IN NOK BILLIONS



Source: NGPFG reports and Norwegian state budget

Although the general trend is growth in revenues, revenues have fluctuated considerably in the period. Expenditures, expressed by the red line in the graph, have been lower than revenues for the period. The exception was in 2002 when expenditures surpassed revenues. In comparison to revenues, expenditures have been much more stable.

SAVINGS

The difference between revenues and expenditures is equal to the accumulation (savings) in the fund for that year[42]. When expenditures exceed revenues there is deterioration of the fund value. Therefore, this graph serves as a good illustration of the NGPFG *savings function*. For NGPFG, revenues have exceeded expenditures for almost all years. The exception was in 2002 and as a result the market value of the fund decreased by about 5 billion NOK. In all other years except, savings has accumulated in the fund, despite large fluctuations in revenue. Even during the financial crisis, the NGPFG was still able to accumulate value. Due to a positive trend in revenues, savings has also tended to become larger in later years. The largest annual sum was saved in the financial year of 2012, when NOK 503 billion accumulated over

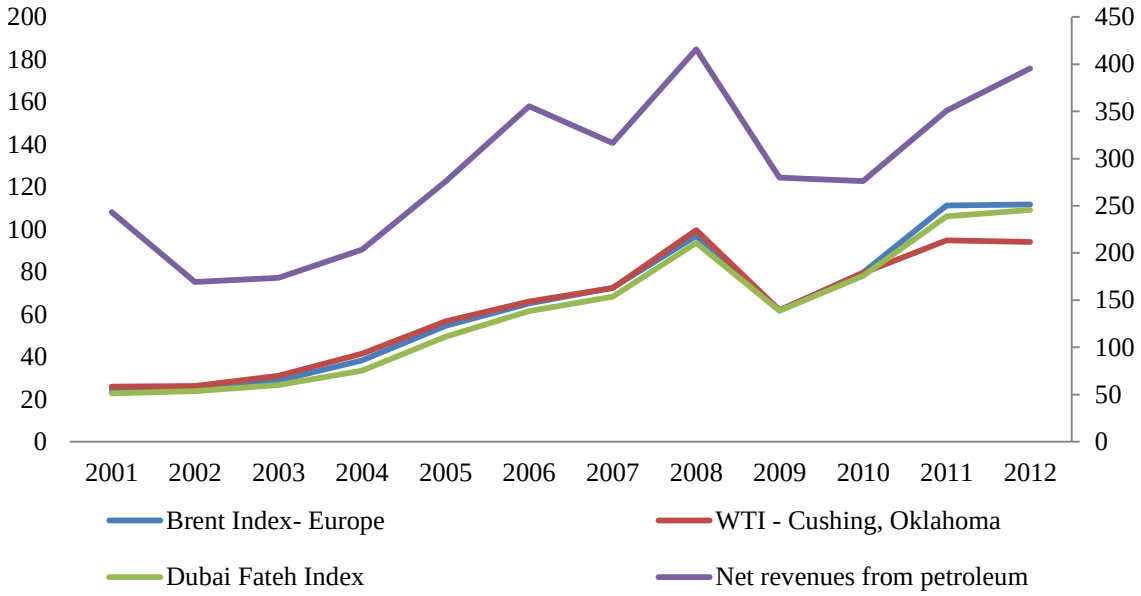
[42] There are minor error margins in our calculation because of slight differences in numbers reported by statsbudsjett.no and NGPFG reports. The numbers should in principle coincide. The differences seem to "even out" over time.

the year. Over the course of the 12 years (2001-2012) the fund accumulated a total value of NOK 3,144 billion. If that is added to what was already accumulated prior to 2001, the total savings in the lifetime of NGPFG is NOK 3,793 billion.

CAUSES OF REVENUE AND EXPENDITURE TRENDS

Because return on investments and exchange rate adjustments contribute largely to the "Revenues and Expenditures" graph they are left out in the below graph. We are left with looking at the revenues from the petroleum sector in isolation. The graph above compares net petroleum income (the main source of NGPFG revenue), with three major oil price indices.

FIGURE 23: HISTORICAL OIL PRICES IN USD AND NET INCOME FROM PETROLEUM SECTOR IN BILLIONS OF NOK



Source: EIA (2014), Norwegian state budget.

The pattern of petroleum revenues matches more or less exactly with the pattern of historical oil prices. The same trend is seen in both petroleum revenues and oil prices from 2001 to 2007, although petroleum revenues fluctuate slightly more. Importantly, both petroleum income and oil prices had a spike in 2008, followed by a drop in 2009, and a recovery from 2010 onwards.

For possible explanations, one must look at the composition of cash flows from the petroleum industry. Keep in mind that, for the case of Norway, the resource fund is fully integrated with the national budget, and hence petroleum state revenues and expenditures are directly linked

to the fund. For other funds, the relationships to national budgets are not always that clear. The majority of the cash flow stems from taxes on petroleum companies. The other major part of cash flows from petroleum industries are State Direct Financial Interest (SDFI). Together, taxes and SDFI make up around 95 percent of annual cash flows to the state from the petroleum sector.

Taxes are based on operating income of petroleum companies on the Norwegian continental shelf (see Appendix 3 for calculation of petroleum taxes in Norway). As oil prices are expected to influence the companies' income, it is no surprise that state revenue, in the form of petroleum taxes, also fluctuate and is positively correlated with oil price. Revenue to the state from petroleum taxes benefit from increased operations, income, and profitability, which are all influenced by the international prices of oil.

The State Direct Financial Interest (SDFI) is the Norwegian state's own interest in oil and gas fields, pipelines and onshore facilities (Norwegian Petroleum Directorate, 2010). In this arrangement, the state pays its share of investments and costs, and receives income from production, like any other owner. If profitability of operations is positively dependent on the oil price, this source of cash flow can also explain the relationship between historical oil prices and revenues from petroleum in Figure 23.

Obviously, macroeconomic shocks like the one Europe experienced in 2007/2008 have affected the spending path of the NGPFG. In 2009, efforts to reduce unemployment and other effects of the crisis, caused government spending and in turn transfers from the NGPFG increased.

Besides looking at the revenues stemming from the petroleum sector, return on investments and exchange rate adjustments is the two other source of revenues to the NGPFG. Return on investments and exchange rate adjustments are also major contributors to the fluctuations in revenues streams detected in Figure 22.The NGPFG has a more aggressive and market-influenced investment strategy than many other funds. As a result, investment returns are more volatile.

Wagner and Elder (2004) find that government spending is highly dependent on the structure of deposits and withdrawal rules that govern the resource fund. The budgetary rule of the NGPFG is "informal" in the sense that it has no legal standing; however the rule seems to put an effective cap on spending in practice. The budgetary rule is the main reason why transfers

are limited, and at a low level. No exponential trends in spending are detected, like for Azerbaijan. The rules governing expenditures to the fund have been the same for the period 2001 – 2012, so changes to rules are ruled out as consequence for shifts or changes in expenditure trends in our findings.

INDICATORS FOR EXPENDITURE SMOOTHING – CORRELATION COEFFICIENTS

Correlation (year-to-year change in government expenditure, year-to-year change in oil revenues)
= **-0.3835**

Interestingly, the coefficient is negative and relatively low. The relationship is that in years of increased oil revenues, the government reduces its overall spending in the budget, which is a clear indication of expenditure smoothing. This finding supports theory that windfall revenues from the petroleum sector are *not* excessively spent in the budget in the same year.

Similar coefficient can be produced in point of view of the fund, by using the fund's revenues and expenditures. The correlation coefficient for the NGPFG below, expresses the relationship between the year-to-year change in revenue, and the year-to-year change in expenditure[43].

Correlation (year-to-year change in fund revenues, year-to-year change in fund expenditures)
= 0.3612

This coefficient is an indication that changes in fund revenues are positively, but moderately correlated with the expenditures of the fund. As an aside, both correlation coefficients would likely have lower values (more negative values), if they have been adjusted for inflation[44]. Looking back at Figure 22, it is evident that revenues are volatile, while expenditures are far more stable. Expenditures from the fund, does to some degree follow the revenues to the fund. One explanation as to why the correlation is not negative, as in the petroleum revenue – budget expenditure correlation, is that return on investments and exchange rate adjustments influence the revenues considerably. In terms of overall government policies and resource

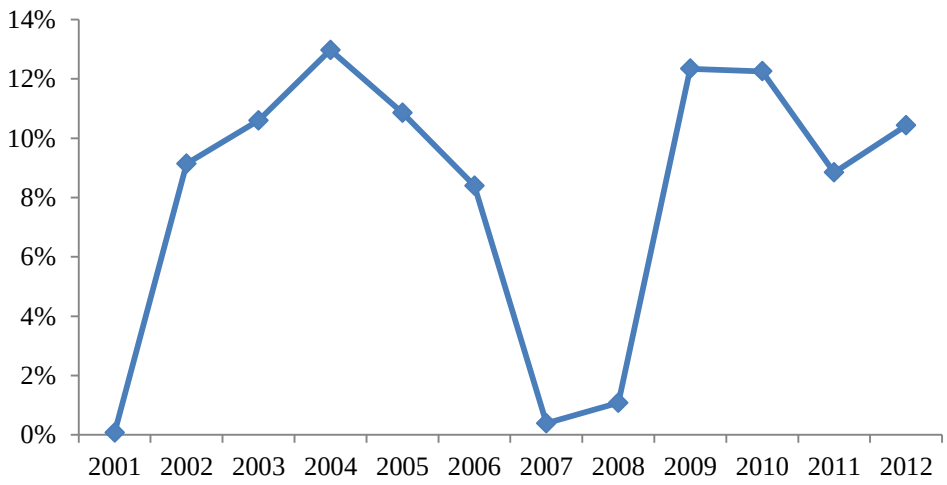
[43] As before, revenues include return on investments and exchange rate fluctuations.
[44] Both measures use data expressed in current NOK, and is not inflation-adjusted.

curse avoidance, the first correlation is most important. Our assessment is that the NGPFG has an excellent ability to smooth government expenditures.

BUDGET BALANCING

The size of the Norwegian state budget has consistently grown since 2001, due to steady increase in annual government spending. Government expenditures increased from 516.8 NOK billions in 2001, to 1,002.6 NOK billions in 2012, which is almost a doubling of government spending in nominal terms.

FIGURE 24: SHARE OF NGPFG TRANSFERS IN STATE BUDGET



Source: NGPFG reports and Norwegian state budget

In the case of Norway, the transfer from the NGPFG to the budget equals the non-oil budget, by definition. Hence, the graph is also a representation of the non-oil structural deficit as a percentage of the total state budget.

The size of transfers has varied over the course of period. In 2001, only 0.4 billion NOK was transferred to the state budget, only constituting 0.08% of total budget expenditures. 3 years later, transfers worth 80.7 billion NOK constituted almost 13% of total government expenditures. The spending of the NGPFG money in the budget was then decreased to a very low level in 2007 and 2008. In the wake of the financial crisis, the use of oil money was

12.34% of the budget. For the remainder of the period, the percentage share has slightly decreased from the temporary peak of 2009.

5.3.2. TRANSPARENCY

OWN FINDINGS

OBJECTIVE, STRATEGY, AND POLICY ON TRANSPARENCY

The Secretary General of the Ministry of Finance of Norway, Tore Eriksen, highlights the key issue of transparency of the fund as following:

"The need to build a consensus for accumulating substantial financial wealth on the hands of the government makes it necessary for policymakers to be able to tell the public exactly how the money is invested, and what the returns are."- Eriksen (2006, p. 13)

Similarly, Tore Eriksen highlights the issue of accountability as following:

"A system of checks and balances was set up to ensure accountability and a clear division of responsibilities between the Ministry and Norges Bank." - Eriksen (2006, p. 13)

The fund's mission is, according to its annual reports, to safeguard and build financial wealth for future generations. The fund was established by the country's legislature in order to facilitate government savings and to smooth the effects of fluctuating oil prices, to finance rising public pension expenditures, as well as to promote long-term spending of petroleum revenues.

LEGISLATION AND OPERATIONAL RULES

The parliament acts as legislator and has made the Ministry of Finance responsible for management of the fund. The operational management is delegated to Norges Bank Investment Management. Duties and authorizations are delegated downwards in the system, while reports on return and risk are made upwards. Each level of management includes a supervisory board.

The NGPFG has a fiscal guideline that does not formally bind the government or parliament called *budgetary rule* which is a quantitative commitment by politicians to not spend more than 4 percent of the balance of the fund each year and has set this level as a limit for the government's "structural" non-oil deficit. The fiscal guideline provides an anchor for the budget process. Nonoil deficits that exceed the expected real return on assets of the fund are acceptable during recessions, but other than that, it should be below the limit when GDP grows fast.

PUBLIC AVAILABILITY OF INFORMATION

In terms of public availability of information, the NGPFG is regarded as one of the influential funds. The fund does not have its own website, but relevant information concerning the NGPFG can be found on the Ministry of Finance's and Norges Bank Investment Management's (NBIM) homepage. The websites have a vast amount of information where they provide detailed reports, both in Norwegian and English, concerning all relevant legal material for the purpose of enhancing transparency. The websites also provide detailed annual reports since 1998 and quarterly reports since 2002 that aims to provide a transparent and thorough view of the operational management of the fund. Additional documents concerning policies and management of accounting, performance, risk and delegation of authority can be found on the websites as well as the Norwegian Government Pension Fund Act. Also included are documents on ethical guidelines of the fund and companies that do not meet the NGPFG's ethical requirements.

Included in the annual reports is comprehensive information regarding the NGPFG's investment portfolio and performance. For instance, the reports have broken down the returns of the fund and market value of each of the three areas of investments: equity, fixed-income and real-estate. Investments by geographical distribution are presented, with complete information on types of investments (equity, real-estate and fixed-income) in each and every country they have invested in. Measurement of financial instruments, estimates, benchmarks, currency distributions, credit ratings, exchange rate adjustments, auditing practices, and risk are also presented.

One drawback of the annual reports is that there are limited details regarding inflows and outflows. The mechanisms that are used to set off the fund's outflows against inflows are not

sufficiently reported. In order for us to gather the data, we had to access the state budget for the details, as the fund is fully integrated with the state budget.

ACCOUNTING AND AUDITING

Norges Bank delivers detailed annual report on the management of the fund as well as quarterly reports containing return and costs data to the Ministry of Finance. In addition, Norges Bank also reports to an independent company that is hired by the ministry to make calculations of the fund's returns. The fund is audited by the Office of the Auditor General which bases its work partly on material from Central Bank Audit, and is appointed by and reports directly to the parliament. The financial performance of the fund is also audited by an external company, who currently is Deloitte. In the Independent Auditor's Report section of the annual report, Deloitte's assessment of the NGPFG's financial reporting is in accordance with International Financial Reporting Standards (IFRS) as adopted by EU. An important notion is that the NGPFG has been audited solely by the Central Bank Audit until the fund hired Deloitte as the independent auditor in 2007.

APPOINTMENT OF OFFICIALS AND MANAGERS

The NGPFG is supervised and audited by two bodies that are appointed by the Storting: the Office of the Auditor General of Norway and the Supervisory Council. The Supervisory Council consists of 15 members, appointed by the Storting. The Council supervises the activities and ensures that rules are met. The Storting adopted amendments to the Norges Bank act in 2009, and as from 2010, the Council is also responsible for selecting an external auditor, who then reports back to the Council. The Minister of Finance delegates operational management to the Norges Bank. The Executive Board has overriding responsibility for the operations of Norges Bank, and the Board consists of members, appointed by the King in Council.

MEASURES OF TRANSPARENCY

LINABURG-MADUELL TRANSPARENCY INDEX: 10/10

Similar to Azerbaijan's SOFAZ, the NGPFG has a full score on the Linaburg-Maduell Transparency Index. Coinciding with our findings of the NGPFG, we agree that all principles and requirements deemed necessary by the Index for a full score are met, as the NGPFG is frequently referred to as a good performer that is widely used as a benchmark of transparency and accountability.

The annual reports provide detailed information regarding structure of ownership and the source of wealth. Independent audits are reported both quarterly and annually. Detailed information is provided on investment guidelines, portfolio market performance, value and returns. Also, the reports provide detailed information on the investment portfolio in different geographical locations. Contrary to SOFAZ, the locations are not limited to continents only, but have detailed information for specific countries.

There are, however, some principles that need attention. For instance principle #2 states that the fund provides up-to-date independently audited annual reports. Given that the NGPFG only hired an independent auditor in 2007, this would be an issue prior to 2007. Another notion is principle #9. Unlike SOFAZ which has a website specifically dedicated to itself, the NGPFG's reports and documents are found at the Ministry of Finance's and NBIM's website. However, as the NGPFG is not a separate legal entity, but instead dependent entity within the Ministry of Finance, we believe this is in accordance with principle #9.

TRUMAN SCOREBOARD: 14/14

Overall, the highest scoring funds on the Truman Scoreboard are the funds of New Zealand, Chile, the United States (Alaska), Ireland and Norway. Among these funds, Norway scores the highest overall, with a total score of 98 of 100 as of 2012. Furthermore, the NGPFG is the only fund among the five highest ranking funds on the Truman Scoreboard that has more than USD 50 billion in assets (Bagnall and Truman 2013).

As for the transparency and accountability segment of the Truman Scoreboard, Norway's NGPFG achieves a full score, scoring 14.00 points of 14.00 possible. The achieved score is

relatively higher than what Kazakhstan and Azerbaijan has achieved. As Norway's fund has been so highly praised for its transparent management, we certainly agree that the fund lives up to its name, as our own findings coincide with the scores given by Truman.

COMMITMENT TO GOVERNANCE AND TRANSPARENCY INITIATIVES

EITI

Norway has, since 2003, been actively involved and encouraged this initiative with political and financial support. As a result, the EITI International Secretariat was established in Oslo in 2007. Even though Norway has produced EITI Reports that disclose revenues from natural resource extraction since 2008, Norway did not become compliant until 2011. As a result, Norway is the first Organization for Economic Co-operation and Development (OECD) country that has decided to implement the EITI criteria (Regjeringen 2014).

SANTIAGO PRINCIPLES

Each of the five highest funds on the Truman Scoreboard, as well as six of the next seven high-ranking funds, are associated with the IFSWF. Not surprisingly, the five highest scoring funds on the Truman Scoreboard are also the most compliant funds according to the Santiago Compliance Index 2013[45]. An interesting notion is the progress of Norway's NGPFG. For instance, in 2011 the NGPFG was ranked 3rd, with a compliance ratio of 77 percent, falling behind Australia's Future Fund and New Zealand's Superannuation Fund. However, the NGPFG scored a 94 percent in 2013, which is a remarkable progress. This in turn moved Norway's NGPFG to 1st place, ahead of Australia and New Zealand's funds.

There is one drawback that needs attention. We believe that the NGPFG is, in part, not in accordance with Principle 4, stating that "there should be clear and publicly disclosed policies, rules, procedures, or arrangements in relation to the SWF's general approach to funding, withdrawal, and spending operations." [46] In order for us to gather data on mechanisms that are used to set off the fund's outflows against inflows, we had to access the state budget.

[45] The Irish National Pension Reserve Fund was transformed into the Ireland Strategic Investment Fund in the summer of 2013 with a focus on Irish domestic assets and is therefore not among the higher ranked funds.
[46] http://www.iwg-swf.org/pubs/eng/santiagoprinciples.pdf

6. COMPARATIVE ANALYSES

The comparative analysis chapter starts with explanations to the empirical findings of budget control and transparency (propositions P1 and P3). Then we will assess the extent to which Kazakhstan, Norway, and Azerbaijan can be considered "cursed" by petroleum resources. Finally, we will explore if the resource funds are effective mechanisms for avoiding the resource curse (propositions P2 and P4).

6.1. THE FUNDS' BUDGET CONTROL

This section compares the funds' ability to save, smooth expenditures and balance the budget. By referring back to the structure, characteristics and rules governing the funds, this section aim to explore explanations to the budget control. A summary of the different rules regarding revenues and expenditures of the three different oil funds are presented in the table below[47]:

TABLE 4: COMPARING DIFFERENT POLICIES OF NFRK, SOFAZ AND NGPFG

	Inflows	**Quantitative Constraints**	**Qualitative constraints**
Kazakhstan (NFRK)	State revenues generated by the petroleum sector (majority from direct taxes on petroleum firms approved by the government).	Transfers to the state budget are set annually as a fixed sum. The "Guaranteed transfers" to the state budget is currently fixed at approx. USD 9 billion. Adjustments of 15% are allowed depending on the state of the economy. In addition, the value of the fund cannot fall below 20% of the forecasted GDP for the respective year.[48]	Withdrawals from the fund can be used to cover current expenditures in the state budget. Prior to 2006, withdrawals were earmarked development purposes only.

[47] Inspired by Humphreys and Sandbu (2007).
[48] Note: prior to 2006 other quantitative constraints applied.

Azerbaijan (SOFAZ)	Revenue generated by the oil sector (majority from proceeds from profit on oil and gas sales) except profit taxes, which directly enters state budget.	The limit upon the expenditure is set at an amount equal to the revenues of the fund in any year for the sake of preserving the nominal value of the fund. However, there are no restrictions regarding the size of transfer from SOFAZ to the state budget. In the long-term, a constant real expenditure principle shall be used as a basis. Once the revenue reaches its peak, a minimum of 25% of each year's revenue is to be saved by the SOFAZ.	Expenditure of the fund is divided into three major areas: transfers to the national budget (majority), expenditure on specific projects for socio-economic progress and administrative expenses. These are open for interpretation, could impart the possibility of shifting priorities to meet short-term political goals Expenditures are restrained only by presidential Decrees.
Norway (NGPFG)	All oil revenues enter the fund (majority from taxes).	Parliament is unrestrained, not rule-bound. Established fiscal guidelines known as the *budgetary rule* in which government is not to spend more than 4% of the balance of the fund each year.	Expenditures are not earmarked for specific purposes, but used to cover the deficit in the "non-oil" government budget which is decided by the parliament

6.1.1. SAVINGS

The *NFRK* has been able to accumulate value each year, so in technical sense, it has been able to satisfy its savings function. Initially, it seems like the NFRK has a decent ability to save, but to correctly assess the fund's ability for sustainable saving, one must look at the savings in the context of the country's oil production depletion. Referring to Figure 25, we see that Kazakhstan's oil production is increasing, but at a lower rate than before. This can be an indication that Kazakhstan is soon to reach its "peak" in oil production. Lücke (2010) estimates the oil production depletion year to be 2078. Even if this is an uncertain assumption, it does indicate many years of significant oil production left. Looking at the bigger picture, sustainable savings infers more savings in years of high production, which in turn leaves more wealth for years when resources are depleted (or production is low). For NFRK, this implies that savings are satisfactory at present, although the fund is encouraged to increase savings in

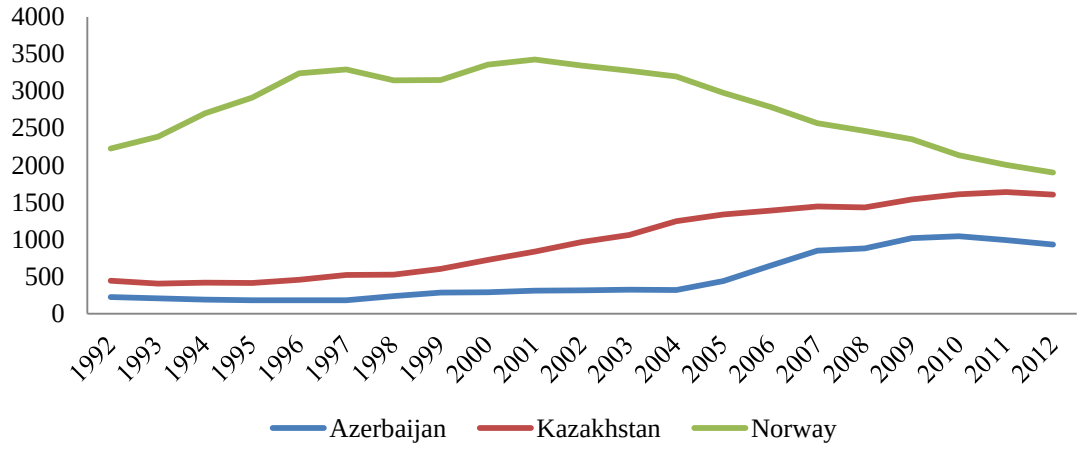
the years to come, before resource depletion halts revenue streams. One of the reasons for larger accumulation in subsequent years has been due to increased direct taxes from petroleum companies paid to the fund. This can be explained as an improvement in the rules governing inflows. On the expenditure side, a more conservative spending path would induce more savings. In addition, criticism due to presidential discretion in deciding the amount of annual spending, calls for a more democratic process. Rules governing the fund outflows could be improved in order to enhance savings.

In the case of *SOFAZ*, the rule stating that expenditures are not to exceed revenues does not advocate for savings for future generations, in the sense that expenditures can be as high as the amount of revenue that is generated. Still, the fund has been able to accumulate each year besides in 2006. As the oil production did not peak until 2010, the SOFAZ did not break the rule stating that 25 percent of revenues are to be saved. However, as the pattern of increased expenditure is more present for recent years following the global financial crisis, savings is thus deteriorating. As evident in 2013, the fund was only able to save 9.56 percent of its revenue, which does not comply with the fund's rules. Given that the oil production has reached its peak, oil production will subsequently diminish (Figure 25). Oil production depletion is beyond the horizon, based on the trend of production, and according to forecasts of Lücke (2010); oil will be depleted in 2029. And with the current spending and transfers to the state budget that the fund conducts; the spending path is all but sustainable. In summary, the rules regarding spending for SOFAZ are not very strict. Even so, the fund still managed to breach the rule by spending slightly more than the revenues that were generated for 2006. The SOFAZ's increasingly unconstrained spending suggests that the fund is unable to promote savings.

The mere size of the *NGPFG* gives proof of its ability to save for the future. The NGPFG has already proved itself as a good saving-tool, and has become the largest NRF in the world. Compared to the NFRK and the SOFAZ, it has a superior savings function. For all years in the studied period, NGPFG has been able to save considerable amount. The exception is 2002 when the fund's value decreased slightly. Revenue streams for the NGPFG are more volatile than for the NFRK and the SOFAZ, partly due to volatile revenues from the Norwegian oil sector, and partly due to a more aggressive investment strategy (yielding more variation in returns). Expenditures are however stable and moderate. The accumulation in the fund varies quite largely annually, but the long-term the strategy for the NGPFG seems beneficial for savings. We highlight the budgetary rule together with the funds' successful investment

strategy (returns) as key explanations for its ability to save. The large and successful savings of the NGPFG are however, in our opinion necessary for Norway in terms of the "oil production cycle". Norway has, by all chances, reached its peak year in oil production, and yearly production is now slowly decreasing (see Figure 25). Signs of depletion necessitate the need for accumulated assets which Norway largely has achieved through the use of the NGPFG.

FIGURE 25: HISTORICAL OIL PRODUCTION (BPD) IN KAZAKHSTAN, AZERBAIJAN AND NORWAY



Source: Energy Information Administration.

6.1.2. EXPENDITURE SMOOTHING

In *Kazakhstan*, the correlation between total government expenditures and oil revenues to the state indicated that the Kazakhstani government had an inadequate ability to smooth expenditure. The correlation coefficient is 0.7549 which evidently shows that windfall revenues from the oil sector inflate the overall Kazakhstani budgetary spending. The separation of oil revenues from non-oil revenues is insufficient. Again, clearer rules and improved establishment of the relationship between the NFRK and the state budget would be beneficial.

In *Azerbaijan*, the correlation between total government expenditure and total oil revenue of 0.681 is positive and high. Similar to Kazakhstan, this implies an inability to smooth

government expenditures. A reason for this relationship can be explained by the rules of the fund concerning expenditures. As there were no rules prior to the oil production peak, expenditures could amount to the revenue generated for a given year. The correlation coefficients indicate that the government will spend as the revenues increase and decrease when revenues decline. As a result, the fund does not contribute to smooth expenditures.

Correlation coefficients of -0.3835 for *Norway* indicate that the NGPFG has an excellent ability for smoothing government expenditures. The overall oil revenue to government spending correlation is negative, which in fact suggests that the Norwegian state spends less when earnings from the petroleum sector are high.

6.1.3. BUDGET BALANCING

The mechanisms in which the *NFRK* is used for *budget balancing* are in our opinion not sufficiently clear. The fund's relationship with the state budget has changed over time, and the information regarding the relationship is not easily understandable through publicly available official Kazakhstani sources. We believe that the transfer figures reported by the NFRK are not comparable across years. Due to this, analysis was difficult without the use of secondary data.

Similar to the NFRK, The mechanisms in which the *SOFAZ* is used for budget balancing are not sufficiently clear. In addition, the transfers to state budget are not specifically earmarked, suggesting that the assets transferred are basically dissolved in the state budget and not necessarily for budget balancing. However, by studying the increase in non-oil deficit and the increase in transfers to state budget, as well as the rule stating that expenditures are determined by the non-oil deficit, we believe that the fund contributes to budget balancing.

Our section on budget balancing confirms that the *NGPFG* is strictly used for the purpose of covering the non-oil budget balance. Its relationship with the state budget is much clearer than with the two other funds of this study.

CONSIDERING PROPOSITION 1

To summarize our findings with regards to the determinants of budget control for the funds, we can draw attention to the following points:

- The NFRK has been able to satisfy its savings function, however its ability to smooth expenditures and to balance the budget is inadequate and not sufficiently clear.
- The SOFAZ's functions for saving, smoothing expenditures and balancing the budget do not promote budget control.
- The NGPFG has superior savings function, has excellent ability for smoothing government expenditures and its clear function to cover the non-oil budget balance confirms the fund's excellent budget control.

6.2. THE FUNDS' COMMITMENT TOWARD TRANSPARENCY

As the EITI membership is voluntary, government consideration of EITI membership shows some degree of acknowledgement and commitment towards improving transparency. Changes in transparency are not done overnight, as incentives to improve transparency often is rooted in values and norms of the society. The quality of transparency of the fund can be answered by studying the funds' initiative and the funds' process in an attempt to increase transparency and accountability. In other words, we can study the progress of the funds' in initiatives and forums to determine whether this has led to higher transparency for the fund. Contrary to the Santiago Principles, the EITI standard is *not* aimed at resource funds in particular, but for the interaction between governments, extractive companies, and civil society. Although both EITI and Santiago are initiatives that drive transparency, resource funds might find the Santiago Principles more helpful in developing guidelines.

6.2.1. A COMPARISON OF THE FINDINGS

Transparency has always been a key principle of the *SOFAZ*. The decision-makers of the fund have been proactive in forums and initiatives that aim to improve transparency and accountability. Indeed, Transparency has always been a key principle of the NGPFG as well. The NGPFG is frequently referred to as a good performer, and the fund is thus widely used as a benchmark of transparency and accountability. But unlike the SOFAZ and the NGPFG, the NFRK does not have clear indication of its commitment to the initiatives.

The SOFAZ had 9 points in 2008[49] before achieving full score on the Linaburg-Maduell Transparency Index, and is now considered the most transparent fund along with funds such as Norway's NGPFG and Alaska's Alaska Permanent Fund. Another area of improvement is through the Santiago Principles. The SOFAZ increased its score by 11 percent in a matter of two years, and has thus a score slightly below Canada's Alberta's Heritage Fund and a higher score than funds whose owner are considered adequate like Singapore.

Similar to the SOFAZ, the *NGPFG* has achieved a full score on the Linaburg Index and fully complies with the Santiago Principles. In fact, the NGPFG has the highest compliance rate among all NRFs that have decided to implement the principles. There have been some improvements that can be seen in the NGPFG. In 2011, the NGPFG was ranked third, behind Australia and New Zealand's funds. Since then, the compliance rate has increased notably. With an increase of 17 percent on compliance, the NGPFG moved ahead and became the most compliant fund on the Santiago Compliance Index. This shows that even with a very transparent fund, there is still room for improvement.

Unlike the SOFAZ and the NGPFG, the *NFRK* has not committed to the Santiago Principles. The Santiago Principles is an important initiative, because it provides guidelines for good governance and transparency for resource funds. Our findings suggest that the NFRK would benefit from having clearer guidelines and procedures for promoting transparency, and that the Santiago Principles can provide a helping hand in this respect.

6.2.2. EXPLANATION

Azerbaijan and the *SOFAZ* were proactive in the early stages of EITI, and during the process, Azerbaijan went from a candidate country to a compliant country. The Executive Director of the SOFAZ and also Chair of the National Committee on EITI, Shahmar Movsumov, is considered being a pioneer of the EITI implementation process. With his ambitions and experience, he has led SOFAZ towards achievements like winning the award in 2007 for the United Nations Public Service Award in the category of "Improving transparency, accountability and responsiveness in the Public Service".

It can be complex to assess the impact of the *NGPFG's* commitment and policies upon transparency as the fund has been transparent since its inception. Transparency in payments

[49] http://libertyparkusafd.org/lp/hancock/Special%20Reports/Sovereign%20Wealth%20Funds/Sovereign%20Wealth%20Fund%20Institute.htm

and governance has always been universal principles of Norway, and by becoming a member of EITI confirms the country's commitment towards promoting and increasing transparency. Although Norway already complies with the principles of transparency of the EITI, the membership is aimed, not only to improve the country and possibly the fund's transparency, but also in hope that other countries will be motivated and inspired to do the same (Regjeringen 2014).

One of the causes of a somewhat lower level of transparency for the *NFRK* than other funds is that they were involved *earlier* in EITI. Kazakhstan's commitment to EITI has been gradual, and eight years passed from the time Kazakhstan's first EITI report was delivered to being awarded the title of a *compliant* country. This exemplifies that improving transparency is a process that takes time. Using the same logic, a continued commitment to EITI can result in further improvements of transparency in years to come. Besides a commitment to EITI, the NFRK has no clear policies on transparency, nor has the fund committed to the Santiago Principles

CONSIDERING PROPOSITION 3

To summarize our findings with regards to the impact of the funds' commitment to transparency, we can draw attention to the following points:

- NFRK's commitment to EITI has likely contributed positively to its level of transparency; however, the NFRK's lack of clear policies on transparency, together with a lack of commitment to the Santiago Principles, is likely to have contributed negatively to the level of transparency.
- SOFAZ's proactive commitment to EITI and to the Santiago Principles are encouraging and also contributes positively to its level of transparency
- It is difficult to assert whether the NGPFG's commitment to initiatives have substantially affected the level of transparency as the fund has been transparent since the inception. Yet, the NGPFG's commitment to Santiago Principles has further promoted the transparency of the fund as the compliance rate has increased.

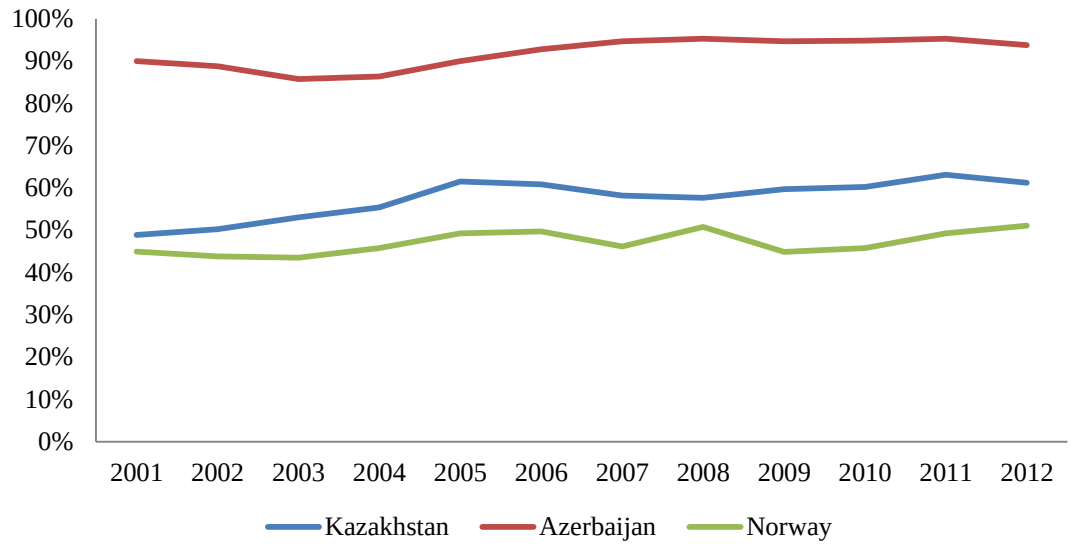
6.3 ELEMENTS OF THE RESOURCE CURSE

This section starts with analyzing the countries' vulnerability to the resource curse by identifying oil dependence. Subsequently, we will analyze the countries' economic growth aspect of the resource curse and the countries' institutions, specifically corruption.

6.3.1. OIL DEPENDENCE

The countries' vulnerability to resource curse can be answered by studying oil dependence, as it should have implications for the economic prospects for the country. The classical resource curse hypothesis as described by Sachs and Warner is that high resource abundance leads to a subsequent reduction in economic growth. One can predict based on the theory that countries with high dependence on oil will experience reduced economic growth.

FIGURE 26: OIL EXPORTS AS A PERCENTAGE OF TOTAL EXPORTS IN KAZAKHSTAN, AZERBAIJAN AND NORWAY



Source: IMF (2013a, 2013b, 2013c) country reports; own calculations

Fuel export as a share of total export in *Kazakhstan* was around 49 percent in 2001. The share of oil export continued to increase to 2005, when it reached 61.5 percent. From 2005 to 2012, the share of oil export has leveled off, although fluctuating between 57 percent and 63 percent in this period. The graph illustrates general increase in the share of oil export of total exports for the period 2001-2012. An oil export share of total export of around 60 percent for the last

eight years, oil is the main export commodity. Oil is paramount to the economy of Kazakhstan, as the country seeks to achieve export-led growth. .

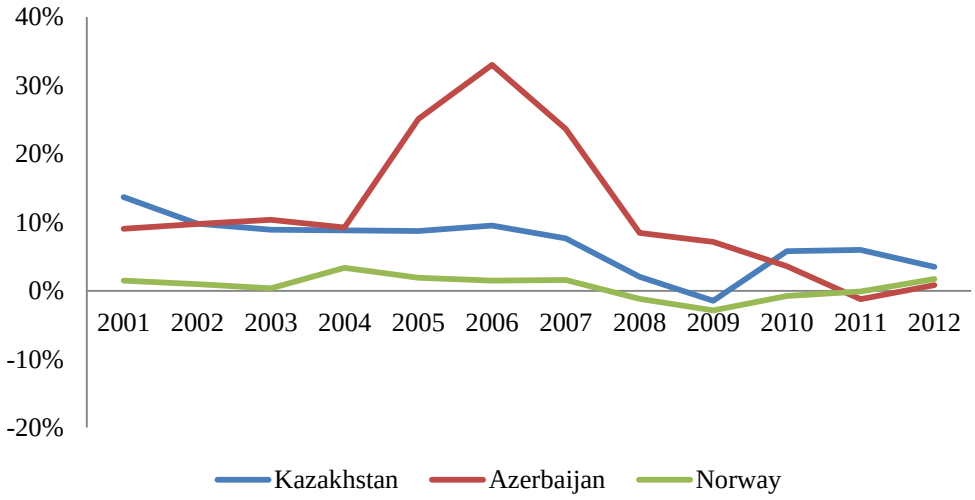
Relative to total exports of *Azerbaijan*, the share of oil exports has always been significant. Furthermore, the relationship between oil export and total exports has been consistent, ranging between 90-95 percent as illustrated. This is significantly high, representing nearly all of the nation's exports. In other words, Azerbaijan is particularly dependent on oil, which confirms the vulnerability of Azerbaijan to the resource curse. This dependence is increasing, and it can also be reflected upon by studying oil fund transfers to the budget, which we did in the previous section. Of the overall state budget, oil revenues consist of more than 50 percent. Thus the pattern in which the SOFAZ is becoming the main donor of the state budget is growing and reaching a level that can become dangerous for the nation.

Of the three countries studied, *Norway's* oil export as a share of total exports is the least significant. Similar to Azerbaijan and Kazakhstan, oil export as a share of total exports is constant throughout the whole period studied. The share of oil in total exports was, in 2001, approximately 45 percent. The following years, the share slightly decreased until 2004, before the share gradually increased to 49 percent. As of 2012, share of oil in total exports is approximately 51 percent, indicating an increase of 6 percent since 2001. Oil constitutes 50 percent of total exports of Norway, which is considerable. This is however, slightly lower than Kazakhstan's dependence and particularly lower than Azerbaijan's dependence upon oil.

6.3.2. ECONOMIC GROWTH

Figure 27 shows the growth rate in GDP per capita per year. Sachs and Warner express economic growth as GDP per capita. We choose to display GDP per capita measure as the growth rate from previous year, instead of nominal annual figures. This is for the reason that the growth rate better emphasizes fluctuations in economic growth. To help interpret the graph we have added two key figures: the average annual GDP growth rate from 2001 to 2012 and the variance in growth rates. The average annual GDP is an indication of the overall economic trend for the country. The variance is an indication of fluctuations in GDP, and hence a measure of economic stability.

FIGURE 27: ANNUAL GDP PER CAPITA GROWTH RATE 2001-2012 IN KAZAKHSTAN, AZERBAIJAN AND NORWAY



Key Figures 2001-2012	Kazakhstan	Azerbaijan	Norway
Average annual growth (%)	6.92	11.59	0.67
Variance (%)	0.16	1.07	0.03

Source: World Bank (2013b); own calculations

On average the GDP per capita of *Kazakhstan* grew by 6.92 percent annually. This constitutes to considerable growth over the period. As the graph illustrates, the Kazakhstani economy fluctuated more than the Norwegian economy, but less than the Azerbaijani economy[50]. 2001 to 2007 was a period of high economic growth, with an annual GDP per capita growth of around 10 percent. The growth halted, and resulted in slight recession (negative growth rate of -1.44 percent) in 2009[51]. The economy then picked up in 2010, 2011 and 2012. The sudden decline in the economy during the financial crisis gives cause for concern for Kazakh people. Stability should be a macroeconomic goal for governments as less extreme differences between peak and recession periods causes less severity, especially for the less fortunate in society.

[50] Comment on economic stability: The period 2001-2012 might be a little short when assessing stability. For consistency through this paper, we decided to keep the same period (2001-2012) for all variables and graphs. For the sake of argument however, our measure of economic fluctuation show that Azerbaijan and Kazakhstan is less stable, and Norway is more stable, when the period is extended a further 10 years back (1991 - 2012).

[51] In 2009, Kazakhstan had recession (negative growth) both in terms of GDP and GDP per capita (World Bank, 2014).

In terms of the economic growth aspect of the resource curse, one cannot directly say that Kazakhstan is cursed, because it is in fact experiencing a period of growth. It does however, in our view, have issues with stability and potential sustainability problems.

Azerbaijan has experienced a major growth in GDP since the start of the new millennium. To exemplify this growth, the GDP of Azerbaijan was USD 5.708 billion in 2001 and has increased to USD 66.605 billion (World Bank 2013a), which is an increase of an astonishing 11.6 times. But we believe that by measuring GDP per capita, we get a more representable picture of the development and progress of the economy in Azerbaijan.

Similar to the growth in GDP, the GDP per capita has grown substantially. In 2001, the GDP per capita was USD 793.67 and has increased to USD 7,163.7 in 2012, meaning that Azerbaijan's GDP per capita has grown close to ten times in a matter of 11 years. The commencing years have a stable, yet, high growth rate of approximately 10 percent until 2004 which the growth rate increased substantially due to increase in oil export, high oil prices and expansionary policies. But since the peak in 2006 of about 33 percent, the growth rate has plummeted and has even experienced a negative growth rate in 2011 of -1.23 percent (World Bank 2013b) as a result of structural rigidities and an unfavorable business climate.

During this period, we calculated the average GDP per capita growth rate to be 11.59 percent which is considerably high compared with Kazakhstan's and Norway's growth rate. As the Republic of Azerbaijan is a newly independent country, the growth rate in GDP per capita is higher than the already well-established and adequate countries like Norway. In addition, we have calculated the variation in the growth rate of Azerbaijan's GDP per capita to be 1.07 percent. This indicates that the variation is higher and thus more vulnerable to external shocks than for Kazakhstan and Norway.

Norway has the lowest growth in economic wealth per capita in our sample of three countries. The average annual growth rate of only 0.67 percent is over 6 percent lower than Kazakhstan and about 11 percent lower than Azerbaijan. The growth rate in 2004 was the period's highest, with a growth rate of 3.35 percent. In 2008, 2009, and 2010, Norway GDP per capita was reduced. The lowest rate was in 2009 with a negative growth rate of 2.87 percent. Norway already has one of the highest GDP per capita in the world, and extreme growth scenarios, like some developing countries experience, is not likely for Norway. Maintaining a low, yet stable growth is much more realistic.

As indicated in the figure, there is less variation in the growth rates for Norway than for the two other countries. The variance for Norway's growth rates is just 0.03 percent. Again, both Kazakhstan and Azerbaijan has higher variance, which means that Norway has a much more stable economy.

In terms of the economic growth aspect of resource curse portrayed by Sachs and Warner, it is debatable whether Norway is cursed or blessed. Economic growth is actually quite low, even though it is not negative. However, we argue that a stable economic growth and sustainability is just as important to the question of resource curse. Based solely on economic indicators, it is our view that Norway is blessed by natural resources.

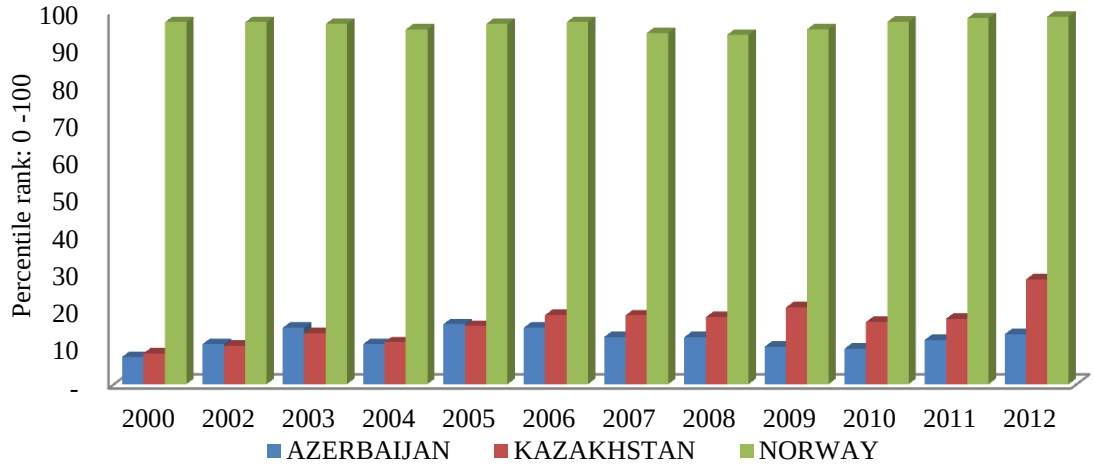
6.3.3. INSTITUTIONS – CORRUPTION

With the intention of not getting caught in a narrow view of the resource curse, institutions of the respective countries should also be examined when answering questions concerning the resource curse. Due to the focus on transparency in this paper and the theoretical link to corruption depicted in the theory chapter, the attention is drawn to measures of corruption.

The Control of Corruption Index "reflects perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests" (World Bank 2013c, p.1).

The index measures corruption on a national level. Hence it is an indication of quality of national institutions. From the perspective of new institutional economics, rapid improvements in corruption are not likely as corruption is rooted in informal and slow-changing institutions in society. In other words, corruption is prone to be about the same level over time, and potential changes are expected to be gradual. By studying the control of corruption index for the respective countries; our findings do not differ from this theoretical assumption.

FIGURE 28[52]: CONTROL OF CORRUPTION IN KAZAKHSTAN, AZERBAIJAN AND NORWAY



Source: World Bank (2013c) Governance Indicator "Control of Corruption"[53]

The Control of Corruption Index in *Kazakhstan* seems to indicate a slight positive trend in reducing corruption. The level of transparency is however at a low level throughout the period as it never reaches a percentile score above 30. Findings for Kazakhstan seem slightly contrary to the theoretical explanation that higher resource rents fuel corruption. Kazakhstan has had increased production and revenues from oil, which intuitively would lead to more motivation for grabbing. Yet Kazakhstan has had improvements in corruption.

Overall, in terms of the resource curse, Kazakhstan has a problem with corruption. To give an indication: Kazakhstan is ranked number 133 on the Corruption Perception Index (Transparency International). The corruption level is alarming, especially considering that increasingly large windfall revenues from oil flow are managed by government officials. Still, the positive, yet slow, trend for Kazakhstan gives optimism for the future and can spur more commitment to initiatives, including transparency initiatives, aimed at reducing corruption.

Azerbaijan is known to be highly corrupt ever since its independence from Russia in 1991[54]. The control of corruption in Azerbaijan fluctuates to a lesser degree. Of a possible 100 percentile points Azerbaijan has an average score of 12.10. Similar to Kazakhstan, Azerbaijan's ability to control corruption is poor. It ranges between 7 percentile points, which

[52] There exists no data for 2001.Therefore we have included data from the year 2000 as a replacement for 2001
[53] World Bank Governance Indicator Index scores are *not* available for 2001 for any indices, for any country. Index score for year 2000 is used as a substitute for 2001.

[54] As discussed in chapter 2.2. Azerbaijan

is the lowest in the period, and 16 percentile points, which is the highest in the period. And not far from Kazakhstan, Azerbaijan is ranked number 139 on the Corruption Perception Index (Transparency International). There is, however, optimism for the future. As previously mentioned, rapid improvements in the control of corruption is unlikely. But during the period 2000-2012, Azerbaijan's control of corruption has increased, indicating that Azerbaijan is on the right track towards equality.

Norway is also known to be an adequate and transparent country. As illustrated, Norway's ability to control corruption is very respectable. The percentile score of Norway is stable, with an average score of 96.37. To put this into perspective, Norway is ranked number 7 on the Corruption Perception Index (Transparency International). By studying the period, we see that there has not been a significant increase since 2000, as the score has been nearly at the top since 2000. There has been a slight drop during the global financial crisis, but the drop was not significant. Compared with Azerbaijan and Kazakhstan, Norway is in another league.

6.3.4. TO WHAT DEGREE ARE KAZAKHSTAN, AZERBAIJAN AND NORWAY RESOURCE CURSED?

Kazakhstan is not resource cursed in the way that resource abundance retards economic output. The economic growth per capita in the period 2001-2012 is high (6.92 percent on annual average). Sustainability and stability are still aspects of economic growth that policy makers in Kazakhstan need to address. In terms of improvements in institutional quality, and especially corruption, it is hard to give definite indications of Kazakhstan's resource curse avoidance. Some progress has been made in reducing corruption, but due to Kazakhstan's high level of corruption, the country is still vulnerable to the resource curse. In our opinion, Kazakhstan is not directly "cursed", but still very prone to the paradox of plenty.

The economic growth in *Azerbaijan* is very high, with an average growth of 11.59 percent annually. Therefore, in a traditional sense, one cannot say that Azerbaijan is cursed. Compared with Norway and Kazakhstan, Azerbaijan has the lowest percentage point on its ability to control corruption. There is a slight improvement in the period 2000-2012, but in the medium term, Azerbaijan is still very prone to the resource curse. Indications for both economic and institutional quality are similar to Kazakhstan; there is a high average economic growth, with the country suffering from high levels of corruption. By observing both

economic and institutional measures for Azerbaijan, unambiguous conclusions concerning the resource curse are hard to draw. However we can give the verdict that Azerbaijan is very prone to the resource curse.

Norway contradicts both Kazakhstan and Azerbaijan in measures of economic and institutional quality. Economic growth is relatively low, but due to high stability and a very high economic wealth, Norway has escaped the curse of resources. Likewise, institutional quality is high, and resource wealth has not seemed to deteriorate the quality to a large extent. Our conclusion is hence that Norway is not cursed by resources.

6.4. NATURAL RESOURCE FUNDS AS MECHANISMS FOR AVOIDING THE RESOURCE CURSE

This section will consider proposition 2 and proposition 4 by assessing the funds' effect on oil dependence, economic growth and on the quality of institutions.

6.4.1 THE FUNDS' EFFECT ON OIL DEPENDENCE

The link between oil dependence and empirical findings are related to the section on budget control. In particular we can discuss the fund's effect on oil dependence with regards to *expenditure smoothing* and *budget balancing*.

In chapter 5, findings on correlation coefficients indicated that the government of Azerbaijan and Kazakhstan had a low ability to *smooth expenditures*. Norway, on the contrary, had a high ability to smooth state expenditures. It is therefore not unexpected that Azerbaijan and Kazakhstan are more dependent on oil than Norway. When the ability to smooth expenditure is low, the oil dependence is likely to be at a higher level because the government is dependent on significant oil revenue streams to maintain the level of overall spending.

By simply looking at Figure 26, it appears that the funds have little effect on altering the level of oil dependence as there are no substantial changes or trends in the period 2001 – 2012. As an explanation to this, the time frame of 12 years might be too short to assess the ability of the country to reduce the oil dependence. Structural changes to reduce dependence are needed, which takes time to implement and for results to show. In Norway, general infrastructure is better than in Azerbaijan and Kazakhstan. Infrastructure is likely to have facilitated the success of the general economy, including other sectors than the petroleum sector.

The notion of *budget balancing* can be important for the oil dependence, as fund spending in budget affects the development and structure of the economy. More productive non-oil sectors are likely to export more non-oil commodities, and hence reduce oil dependence. Likewise, improvements in physical and technological infrastructure can alter oil dependence. It is necessary to assess the projects, initiatives and actions in order to conclude whether there is an overall effort to reduce dependence. The SOFAZ is the only fund that provides information on specific projects initiated by the fund.

For the SOFAZ, extra-budgetary spending is used to promote both oil- and non-oil sectors. An example of spending in the oil sector is the SOFAZ's spending in building the Baku–Tbilisi–Ceyhan oil pipelines. Such investments are a natural course of action since Azerbaijan will seek to make arrangements and provide themselves with conditions to enhance oil export opportunities, which would consequently increase exports and profit. However, in the short run we believe that this will increase oil dependence because terms of oil production and oil trade is improved, subsequently increasing oil exports. The SOFAZ has also contributed to other general infrastructure projects, like irrigation systems, railways and water pipelines. In any case, Azerbaijan level of oil dependence is worryingly high and do not show signs of improvements. Improved efforts to reduce oil dependence should be planned and implemented as soon as possible. In the case of Norway, one must assess the budget as a whole, as the NGPFG is strictly used for budget balancing purposes (that is, it supports the overall budget, and transfers are not earmarked specific projects). Political studies on the actual effectiveness of specific projects initiated by funds/oil money are interesting for domestic policy makers.

This study does not give a complete evaluation of the qualitative aspects of the fund's spending. In other words, it does not go into the *distribution* of oil spending. It is beyond the scope of this study to assess specific policies for oil revenue spending, for example what type of government spending is best for developing a diversified economy. Diversification is important for reducing oil dependence, but this topic is not sufficiently covered in this master thesis.

CONSIDERING PROPOSITION 2

Resource funds *can* have an impact on reducing oil dependence. The link to our empirical findings is mainly related to expenditure smoothing and budget balancing. Findings suggest that higher ability to smooth expenditures might reduce oil dependence. However, we believe that our empirical findings are not sufficient to document an effect on oil dependence. For a definite conclusion, the analysis and discussion would need to rely on a qualitative review of what the funds finance.

6.4.2. THE FUNDS' EFFECT ON ECONOMIC GROWTH

The growth in the last decade has set *Kazakhstan* on the right track for the future. A sustainable spending path ensures a constant level of growth in the long run. If growth is based on depletable resources, and savings are not sufficient for continued economic prosperity in the future, then growth is not sustainable. Our findings (in Section 5.1.1.) suggest that the NFRK has a decent ability to save. It is however only in the recent years that noteworthy value in assets has accumulated in the NFRK. When looking at the bigger picture, the NFRK is a novel fund with only a few years of operations to look back on. The real challenge is savings and stabilization over time, also in time of oil production decline.

Regarding fluctuations in GDP per capita, Kazakhstan is between Norway and Azerbaijan. The relative volatility in Kazakhstan's economic growth can be a consequence of fluctuating revenue streams in the oil sector. One of the explanations to the decline in growth in 2009 could be fall in oil prices as described earlier in this paper. Naturally this explanation is not the only one for an economic downturn in the financial crisis, but in terms of natural resource management this explanation is important. Stabilization of the economy is a key goal of the NFRK. The intention is to serve as a buffer for variations in oil prices (revenues), so that the economy can be stimulated in periods of economic decline. In the lifespan of the NFRK, the financial crisis is an important period of analysis, as it is the only time where Kazakhstan was in recession. The NFRK reacted by conducting extraordinary payments to the state budget in 2008 and 2009. Partly as a result of these transfers, the economy was able to recover quickly (quicker than Norway and Azerbaijan). Already in 2009, the growth per capita was back to 5.79 percent. Norway on the other hand was still experiencing negative per capita growth rate in 2010. Azerbaijan was experiencing reduced growth rates in GDP per capita, and was only

able to reverse the trend of reducing growth rates as recent as 2012. The Kazakhstani government has proven that the NFRK can be used as a tool to react quickly in order to serve pressing needs for stabilizing the economy.

This study does not take into account the qualitative aspects of the NFRK's spending. It is not aimed at assessing specific policies for oil revenue spending, for example what type of government spending is best for developing sustainable sectors/industries or promoting equality in Kazakhstan. Our opinion is however, that the NFRK relationship with the state budget should be clarified. The size of the NFRK transfers has been arbitrary and politically influenced for parts of the period (2001-2012). Likewise, how the NFRK has been used for budget-balancing has been unclear. A modest advice is to; firstly, clarify the rules for transfers and budget-balancing, and further integrate the NFRK with the state budget. In turn, focus could be shifted over to developing a state budget that fairly distributes wealth in a sustainable manner.

Considering *Azerbaijan*, one of the goals set by the SOFAZ is to ensure macroeconomic stability. By studying our findings in this section, we find similar results as in previous section; that the SOFAZ does not fulfill its function as a stabilizer. For instance, the growth of GDP per capita is stable in the period 2001-2004 before it is increased by 30 in the period 2004-2006. Subsequently, the GDP per capita plummeted by 30 percent the following two years. The instability in Azerbaijan's economic growth can be explained by the country's vulnerability to external shocks, such as oil prices and consequently the fluctuations in revenues from the oil sector. As oil export constitutes approximately 90 percent of Azerbaijan's total exports, oil price fluctuations determining the economic outcome of Azerbaijan is thus inevitable.

If the stabilization functions of the SOFAZ were efficient, the GDP per capita would not fluctuate, but instead behave in a stable and sustainable manner. However, in our case, the GDP growth fluctuates considerably, indicating a less stable economy. Compared with Kazakhstan and Norway, Azerbaijan's economic growth fluctuates considerably. This fluctuation, or variation, in GDP growth per capita, is also calculated to be 1.07 percent which is higher than both Norway and Kazakhstan.

Another matter with regards to avoiding the resource curse is the sustainable path of the economy. Even though the growth has fluctuated, the GDP per capita grew on average by 11.59 percent annually, which is a substantial growth over the period. Considering that the

SOFAZ's transfers constitute more than 50 percent of total state budget is an indication that depletable resources, which in this case is oil, is the constitution of economic growth.

The decline in the economy following the global financial crisis gives cause for concern for Azerbaijani people. The decline in GDP per capita growth of Azerbaijan and the substantial increase in transfers to the state budget denoted that the global financial crisis did not bypass Azerbaijan, and has consequently hampered the SOFAZ's savings function. The SOFAZ's lack of commitment to the rules causes concern for the future generations of Azerbaijan. Given the fact that the country is fully reliant on depletable resources such as oil, and also the fact that the oil in Azerbaijan is forecasted to deplete in about 15 years, Azerbaijan is on a dangerous path. The savings rate of the SOFAZ has continually diminished since the global financial crisis, and reached to a point in 2013 where the rule on saving 25 percent for future generations is broken. This is an indication that the savings function is not sufficient for continued economic prosperity in the future and thus growth is not sustainable. For instance, when oil production declines, the government is forced to withdraw more out of the fund to cover budget deficits. This in turn would lead to a debt crisis which is unsustainable and could be detrimental to the current and future generations.

As we have discussed the failure of SOFAZ's budget control, the findings regarding fluctuations in GDP growth only confirms that the fund has not contributed to stabilizing the economy. Part of the reason why Azerbaijan's economy is more unstable as the SOFAZ does not promote budget control is the expenditure and withdrawal rules of the SOFAZ. The fact that the fund is absent of clear rules and restriction regarding spending has led to violation of macroeconomic magnitudes that has resulted in financial imbalances. As a result of the absence of clear rules limiting withdrawals from the SOFAZ and directed at transfers to the state budget, the size has gradually increased ever since the global financial crisis. The medium term rule states that expenditures will be determined by the non-oil budget deficit. However, there is no clear definition of sustainable non-oil deficit. Therefore, the non-oil budget deficit has increased over the years, and as a result, withdrawals have subsequently increased in amounts far beyond sustainable. Also, in the long-term, expenditures are to be limited annually based on a constant real expenditure principle. However, we have not seen any limits on expenditure as it has nearly exceeded revenues a few occasions.

Another possible explanation of the SOFAZ's failure in contributing to stabilizing the economy is the discretionary power granted to the President. The governance of the SOFAZ is

greatly focused on the President of Azerbaijan as the operation of the fund is under his direct control. In other words, the structure of the SOFAZ is weak as there are no checks and balances to limit the President's discretion (Revenue Watch 2012). And with the limited formal checks and balances, in addition to no civil society representative(s) in the Supervisory Board that can argue against the President's spending, the President can arbitrarily employ the fund's assets to achieve own political gains. Another instance of power vested in the President is that annual withdrawals from the fund are to be approved by the President every year. Other special projects are also determined by the President that has no detailed information that is accessible on these expenditure items as they remain a secret (Ibadoglu 2013).

Norway's NGPFG can be a tool for economic growth because government spending from the fund can stimulate productivity and output in the economy. The mere size of savings in the NGPFG makes it a powerful tool, yet it is the spending that determines its effect on the economy. For sustainability, the aim is to utilize a spending path that results in a constant level of growth over time. The stability in growth rate in the period studied (2001-2012) gives some evidence that a level of constant growth is achieved. The previous section on budget control suggests that the NGPFG has an adequate ability to save, also taken into consideration the process of depletion of oil and gas. The NGPFG has accumulated more value than its 6 year younger equivalents in Kazakhstan and Azerbaijan. The NGPFG is on the right track in terms of saving for future generations. The intention behind its strategy of using only the financial real return on investments annually (estimated at 4 percent), is in principle that the fund should last forever. However this is no guarantee, as the budgetary rule has been breached in the past, and returns vary greatly. In simple words, there have been years in which Norway has spent more than 4 percent, and years in which the NGPFG has earned less (even negative) than 4 percent on its investments.

Regarding fluctuations in GDP per capita, the NGPFG can take some credit for the relative economic stability of the country. By looking at correlations for expenditure smoothing, we saw that the oil revenues had limited influence on budget spending. As a matter of fact, change in oil revenues slightly reduced the overall spending by the government. This has implications for the stability of the economy: Revenues from the Norwegian oil sector vary greatly and are dependent on the oil price. Our findings support that this volatility does not spill over onto the national economy. The chief reason is that the NGPFG skims off large parts of windfall revenues, and prevents drastic changes in the national budget. The fund serves well as a buffer for oil prices and petroleum revenues.

Norway was influenced by the global financial crisis, even if it was to lesser extent than other countries in Europe. Norway was hit by recession in 2009, and extraordinary use of the NGPFG was used in the same year. Partly as a consequence of increased spending from the NGPFG, Norway's GDP per capita could recover, but only first in 2012 was the growth rate back to positive figures. One can speculate if earlier, or more excessive, use of the NGPFG would have contributed to a quicker recovery. The NGPFG seems to stay true to its modest spending path, even in times of recession. Again, GDP per capita in Norway did not experience large drops, but minor reductions. The effects on the economy were much less severe than in other countries.

Since the NGPFG is not earmarked specific purposes/policies, but used for covering budget deficits, developing a fair budget in general that is the political focus. In Kazakhstan and Azerbaijan where funds are, or have been, earmarked for specific development purposes, projects are chosen aside of the budget process (so called extra-budgetary spending).

CONSIDERING PROPOSITION 2

- **Kazakhstan**: the NFRK's ability to save has helped the Kazakhstan especially in stabilizing the economic growth after the 2007/2008 financial crisis. However, the inability to smooth expenditures may explain the relative instability in the economy.
- **Azerbaijan**: the SOFAZ's inability to save and smooth expenditure has not contributed Azerbaijan in avoiding the resource curse.
- **Norway**: the NGPFG's ability to save and smooth expenditure has helped Norway in avoiding the resource curse. In particular, the fund has been successful in saving for future generations and stabilizing the economy.

Overall our comparative findings suggest that an increased ability to save and smooth expenditure help in avoiding the resource curse.

6.4.3. THE FUNDS' EFFECT ON THE QUALITY OF INSTITUTIONS

From theory, it can be deduced that transparency can be a determinant of corruption. In practice for a qualitative study like this, it is difficult to infer causality by simple trend matching.

In chapter 5, we described *NFRK's* commitment to transparency as moderate with only gradual improvements to transparency. In other words, the trends in our findings, both for transparency for the fund and corruption at the national level, are similar. The lack of transparency in the NFRK can partly be attributed to a low level of transparency in the country in general. Because the level of transparency in the NFRK is moderate (lowest of the three funds in the sample), it is not expected that the transparency of the fund in itself could produce "spill-over" effects of improved transparency in other areas of government operations, or other areas of society.

Meanwhile the SOFAZ's commitment to transparency is highly evident. The contrast between transparency of the fund and transparency and correspondingly corruption in Azerbaijan is simply astonishing. The country, which is headed by a President known to be highly corrupt and opaque, has managed to establish a resource fund that has achieved many milestones towards transparency. The control for corruption has slowly increased in Azerbaijan, which is in accordance with Tsani's findings that the presence of a fund increases transparency. Unlike Kazakhstan, the transparency in the SOFAZ cannot be attributed to the level of transparency in the country as the fund and the country are located at each end of the scale. Because the level of transparency in the SOFAZ is extraordinary, it is expected that the transparency of the fund in itself could produce "spill-over effects" of improved transparency in other areas of government operations, or other areas of society.

Norway is regarded as a very sound and well-established country with adequate institutions, as indicated by the illustrated graph on the control of corruption. It is therefore difficult to evaluate and assess whether the fund's policies and commitment to initiatives has contributed to the level of corruption on a national level. By studying the relationship between the fund and the control of corruption in Norway, we find a resemblance as both are regarded as exceptionally transparent. While the transparent SOFAZ could produce spill-over effects in other areas of the society in the corrupt Azerbaijan, the level of transparency of the NGPFG could be a result of the high level of transparency in Norway.

In the end, causality is not a big focus for this paper. Our findings suggest that a change in level of corruption is a gradual process. Commitments to transparency *can* help in avoiding corruption, but the process is strenuous. Findings support new institutional economics theories of change in informal institutions: both (lack of) transparency and corruption is rooted in the same values, beliefs and norms in the society. The methodology used cannot conclude whether the lack of transparency is result of hiding corruption, or if corruption is a result of lack of transparency.

CONSIDERING PROPOSITION 4:

- **Kazakhstan**: The evidence from our study is not very strong, yet it suggests that if NFRK's transparency can continue to improve, resource fund transparency can have an effect on avoiding the resource curse in the long run.
- **Azerbaijan:** the evidence from our study is not very strong, yet it suggests that resource fund transparency can have an effect on avoiding the resource curse in the long run.
- **Norway:** the evidence from our study is not very strong and not sufficient for us to determine that resource fund transparency can have an effect on avoiding the resource curse in the long run.

Overall our comparative findings suggest that a strong commitment to initiatives that aim to enhance transparency help in avoiding the resource curse in the long run.

7. CONCLUSION AND POLICY RECOMMENDATIONS

7.1 CONCLUDING REMARKS

This study sought to explore how resource funds can be used as mechanisms to avoid the resource curse. By focusing on transparency and budget control, this thesis compared resource funds of Kazakhstan, Azerbaijan and Norway. In the sample of three resource funds, we have proven that resource funds are different in their level of transparency and ability to save, smooth expenditures and balance national budgets. By exploring explanations to these differences, empirical findings indicate that:

- The level of transparency of resource funds can be explained by fund or government commitments to initiatives such as the Extractive Industries Transparency Initiative and the Santiago principles. Moreover, an improvement of fund transparency is a gradual process.
- The fund's budget control is dependent upon the rules governing the deposits and withdrawals, as well as a clear relationship with the state budget. Diffuse and unclear rules favor less savings and lower ability to smooth expenditures.

The empirical findings in this thesis suggest that countries experience different effects of the resource curse and face different challenges in avoiding it. We argue that simply looking at average economic growth for a period is insufficient. In our sample, countries (especially Azerbaijan and Kazakhstan) are exposed to difficulties concerning oil dependence, stability and institutional quality.

So are resource funds effective mechanisms in avoiding the resource curse? Our comparative analysis investigates the funds' effect in three aspects: oil dependence, economic growth and control of corruption.

Our empirical findings are not sufficient to document an effect on oil dependence. However, expenditure smoothing and budget balancing are likely to be important elements to the topic of oil dependence.

In terms of economic growth, the findings suggest that funds with a good savings function promote sustainable growth. A sustainable spending path is most likely when there is a clear

relationship between the budget and the fund. Increased ability to save and smooth expenditures is also likely to reduce fluctuations in growth – that is – to promote stability.

In terms of quality of general institutions, by looking at the control of corruption, the evidence from our study is not very strong. Yet it suggests that resource fund transparency can have an effect on avoiding elements of the resource curse in the long run.

7.2. POLICY RECOMMENDATIONS

Funds should implement rule-based operations and stricter rules for increasing transparency and for reducing expenditure volatility. Expenditure volatility and sustainability can be addressed by setting restrictions on fund spending, including both budgetary and extra-budgetary spending. Transparency is, as discussed, an important prerequisite for a functional natural resource fund that can have an effect on avoiding the resource curse in the long run. Therefore, funds need to have clear rules and policies regarding expenditure and especially establish a clear relation between the fund and the state budget. Funds should be committed to initiatives that aim to promote transparency, like Santiago Principles or EITI. By committing to such initiatives, the funds will be more accountable to their spending and consequently, public will become more aware of the funds' spending. In this way, the funds will send a message to the citizens of the respective countries, that the fund's mission and path is righteous.

7.3 LIMITATIONS OF THE STUDY AND PROSPECTS FOR FURTHER RESEARCH

Generalizations are hard to make from a qualitative study of three cases. The analyses and conclusions are only accurate for the three countries in this sample. Referring back to the external validity discussed in the research methodology chapter, drawing conclusions concerning all resource funds on the basis of three are ineffectual. We emphasize that this comparative study is not used to draw statistical conclusions, but to learn lessons that can be applied in reinterpreting existing studies, situations or to develop new research. To contribute to a better understanding of the effect resource funds have on both economical and institutional factors, more quantitative studies are necessary.

To include additional countries in the study was a balance between time on one side, and the length and depth of empirical data and analysis on the other. Reflecting on the decision of choosing *three* countries, we feel it was an appropriate amount of workload for the given time.

Transparency was a concept that caused some challenges. Through the process of selecting cases, we found that a certain level of transparency was needed to complete a proper budget control analysis. As a minimum requirement, reports or statements displaying revenues and expenditures figures of the fund must be published. In fact, this excluded some suggested cases in early stages, such as resource funds of Nigeria and Kuwait. In these cases, the lack of information prevented us from proceeding. Although Kazakhstan in this study reflects the fund with the lowest transparency, many resource funds are regarded as less transparent in the global perspective.

Because this study does not take into account the quality of the use of oil spending, a large area of the *oil dependence* question is left unexplored. Our study does not go into distribution of oil spending. Assessing specific diversification policies is an important aspect in reducing oil dependence, but is not covered in this master thesis. Hence, one must be careful in attributing too much of the oil dependence findings to the results on expenditure smoothing and budget balancing in this paper. As a consequence, the conclusion on the fund's effect on oil dependence is inconclusive.

Further studies can take a wider approach; by including more countries in the sample, or a narrower approach; by going further in-depth on fewer funds or on fewer topics. Our literature search advocates that the amount of quantitative research on the general resource curse hypothesis is vast, while the amount of quantitative research on natural resource funds is limited. Qualitative single-case studies on natural resource funds are quite numerous. We find the results of Tsani's (2013) paper particularly compelling. It is one of very few studies that quantitatively explore the effects of resource funds. Tsani only uses a dummy variable for the *presence* of resource funds. If we were to suggest a specific study to be carried out it would be the following: A similar study to that of Tsani (2013) with the inclusion of distinctive characteristics for each fund in the sample. Characteristics of resource funds vary greatly, so this would provide much more insight. In this way, one can possibly test for the effects of different characteristics of the funds. For example, we propose that funds are classified by different levels of transparency, to see if the level of transparency has an effect on, for

instance, corruption or economic growth. Similarly, the sample could be categorized by budget control and measure the same effects.

REFERENCES

Ahmadov, I., & Aslanli, K. (2011). State Oil Fund of Azerbaijan Republic: Past, present and future. Sovereign Wealth Funds: New challenges for the Caspian countries. *Revenue Watch Institute*.

Ahmadov, I., Kalyuzhnova, Y., Tsani, S., Mikhailovich D. S., Aslanli K. (2011). Sovereign Wealth Funds: New challenges for the Caspian countries. *Revenue Watch Institute. Public Finance Monitoring Center*, Azerbaijan. Khazar University, Azerbaijan. Baku, 2011.

Amadeo, K. (2012). How are oil prices determined? Retrieved 04.04.2014. URL: http://useconomy.about.com/od/commoditiesmarketfaq/f/oil_prices.htm

Atkinson, G., & Hamilton, K. (2003). Savings, growth and the resource curse hypothesis. *World Development*, *31*(11), 1793-1807.

Auty, R., Gelb, A. (1986). Oil windfalls in a small parliamentary democracy: their impact on Trinidad and Tobago. *World Development*, *14* (No.9),1161–1175.

Auty, R. (1988). Oil-exporters´ disappointing diversification into resource-based industry: the external causes. *Energy Policy* 13, 230–242.

Auty, R. (1991). Mismanaged mineral dependence: Zambia 1970-90. *Resources Policy* 14, 170–183.

Auty, R., & Warhurst, A. (1993). Sustainable development in mineral exporting economies. *Resources Policy*, *19*(1), 14-29.

Auty, R. (Ed.). (2001). Resource abundance and economic development. *Oxford University Press.*

Auty, R. (2007). Natural resources, capital accumulation and the resource curse. *Ecological Economics*, *61*(4), 627-634.

Bacon, R., & Tordo, S. (2006). Experiences with oil funds: Institutional and financial aspects. *World Bank*.

Bagnall, S., & Truman, E. M. (2011). IFSWF report on compliance with the Santiago Principles: Admirable but flawed transparency. *Policy Brief*, 11-14.

Bagnall, A. E., & Truman, E. M. (2013). Progress on sovereign wealth fund transparency and accountability: An Updated SWF Scoreboard. *Peterson Institute of International Economics*. Washington DC. August 2013, revised December 2013.

BAHR (2014). An introduction to Norwegian petroleum taxation. Retrieved 24.02.2014. URL: http://www.bahr.no/en/about-ba-hr/news/an-introduction-to-norwegian-petroleum-taxation

Bhattacharyya, S., & Hodler, R. (2010). Natural resources, democracy and corruption. *European Economic Review*, *54*(4), 608-621.

BP (2014). Statistical review of world energy 2013. Retrieved 05.05.2014. URL: http://www.bp.com/en/global/corporate/about-bp/energy-economics/statistical-review-of-world-energy-2013/statistical-review-1951-2011.html

Brunnschweiler, C. N. (2008). Cursing the blessings? Natural resource abundance, institutions, and economic growth. *World development*, 36(3), 399-419.

Busse, M., & Gröning, S. (2013). The resource curse revisited: governance and natural resources. *Public Choice*, *154*(1-2), 1-20.

CIA (2014). GINI index country comparison Retrieved 20.02.2014. URL: https://www.cia.gov/library/publications/the-world-factbook/rankorder/2172rank.html?countryname=Kazakhstan&countrycode=kz&regionCode=cas&rank=119#kz

CNN (2012). News report on Kazakhstan oil production. Retrieved 18.02.2014. URL: http://www.youtube.com/watch?v=AxU4bjwAaog

Coalson, R. (2013). Azerbaijani President Aliyev named corruption's 'person of the year'. *Radio Free Europe Radio Liberty*. Retrieved 08.05.2014. URL: http://www.rferl.org/content/azerbaijan-ilham-aliyev-corruption-person-of-the-year/24814209.html

Collier, P., & Goderis, B., (2007). Commodity prices, growth, and the natural resource curse: Reconciling a conundrum, Paper 274, *The Centre for the Study of African Economies Working Paper Series*, Oxford University.

Corden, W. M. (1984). Booming sector and Dutch Disease economics: survey and consolidation. *Oxford Economic Papers*, 359-380.

Corden W., & Neary, J. (1982). Booming sector and de-industrialization in a small open economy. *The Economic Journal* 92 (December): 825–848

Corrigan, C. C. (2013). Breaking the resource curse: Transparency in the natural resource sector and the extractive industries transparency initiative. *Resources Policy*.

Davis, J., Ossowski, R., Daniel, J., and Barnett, S. (2001). Stabilization and savings funds for nonrenewable resources: experience and fiscal policy implications. *IMF Occasional Paper 205.* IMF Washington D.C.

de Medeiros Costa, H. K. and E. M. dos Santos (2013). Institutional analysis and the resource curse in developing countries. *Energy Policy 63*: 788-795.

Devlin, J., & Lewin, M. (2005). Managing oil booms and busts in developing countries. *Managing Economic Volatility and Crises: A Practitioner's Guide*, 186-209.

Economist (2010). It's only natural. Commodities alone are not enough to sustain flourishing economies. Retrieved 24.03.2014. URL: http://www.economist.com/node/16964094

EITI (2007). The UN Public Service Award handed out to the State Oil Fund of Azerbaijan. URL:http://www.eiti.az/index.php/en/2007-2/469-bmt-nin-doevl-t-qullugu-muekafat-neft-fonduna-t-qdim-olundu

EITI (2014). EITI countries and reports. Retrieved 23.04.2014. URL http://eiti.org/countries

Energy Information Association (2013a). Countries: Azerbaijan Full Report. Retrieved 12.05.2014. URL: http://www.eia.gov/countries/cab.cfm?fips=aj

Energy Information Association (2013b). Countries: Kazakhstan Full Report. Retrieved 19.02.2014. URL: http://www.eia.gov/countries/analysisbriefs/Kazakhstan/kazakhstan.pdf

Energy Information Association (2014). Petroleum and other liquids. Retrieved 20.05.2014. URL: http://www.eia.gov/dnav/pet/pet_pri_spt_s1_a.htm

English Russia (2011). History of Kazakhstan oil industry. Retrieved 18.02.2014. URL: http://englishrussia.com/2011/09/26/history-of-kazakhstan-oil-industry/

Eriksen, T. (2006). The Norwegian petroleum sector and the Norwegian Government Pension Fund–global. *Ministry of Finance, Norwegian Government*, Oslo.

Gelb, A. H. (1988). Oil windfalls: Blessing or curse*? Oxford University Press*.

Ghauri, P. N. & Grønhaug, K. (2002) Research methods in business studies: a practical guide. 2nd edition. *Financial Times Prentice Hall*. Harlow.

Global Transparency Resource (2014) Why transparency is so important for international financial institutions. Retrieved 28.04.2014. URL: http://www.ifitransparencyresource.org/why-transparency-is-so-important-for-international-financial-institutions.php

Gogia, G. (2013). Personally smeared for uncovering corruption in Azerbaijan. Retrieved 08.05.2014. URL: http://www.hrw.org/news/2013/09/05/personally-smeared-uncovering-corruption-azerbaijan

Grytten, Ola. (2008). The economic history of Norway. *EH.Net Encyclopedia*, edited by Robert Whaples. Retrieved 20.02.2014. URL: URL http://eh.net/encyclopedia/the-economic-history-of-norway/
Human Development Reports (2014). Human Development Index. Retrieved 20.05.2014. URL: http://hdr.undp.org/en/statistics/hdi
Humphreys, M., & Sandbu, M. (2007). The political economy of natural resource funds. Escaping the resource curse, 194-234. *Columbia University Press*.
Humphreys, M. Sachs, Stiglitz, J.E. (2007). Introduction: what is the problem with natural resource wealth?, in Humphreys, M., Sachs, J.D., Stiglitz, J.E. (Eds), Escaping the Resource Curse, *Columbia University Press*, New York, NY, pp.1-20.
Ibadoglu, G., Alasgarov, K., Bayramov, G. (2013). Oil and gas revenue management in Azerbaijan. Revenue Watch Institute. *Economic Research Center*.
IMF (2013a). Norway: 2001-2013 Article IV Consultation. Retrieved 09.05.2014. URL: http://www.imf.org/external/country/nor/
IMF (2013b). Republic of Azerbaijan: 2001-2013 Article IV Consultation. Retrieved 09.05.2014. URL https://www.imf.org/external/country/aze/
IMF (2013c). Republic of Kazakhstan: 2001-2013 Article IV Consultation. Retrieved 09.05.2014. URL: http://www.imf.org/external/country/kaz/
Investopedia (2014). Mixed economic system. Retrieved 08.05.2014. URL: http://www.investopedia.com/terms/m/mixed-economic-system.asp
Isham, J., Pritchett, L., Woolcock, M., & Busby, G.(2005). The varieties of resource experience: Natural resource export structures and the political economy of economic growth. *World Bank Economic Review*.19, 141–174.
Jafarova, A. (2014). SOFAZ increases assets by over 5 pct. *Azernews.* Retrieved 12.05.2014. URL: http://www.azernews.az/oil_and_gas/63838.html
Kalyuzhnova, Y.& Kaser, M. (2005). Prudential management of hydrocarbon evenues in resource-rich economies. *Paper for ECE Spring Seminar*.
Kalyuzhnova, Y. (2006). Overcoming the curse of hydrocarbon: Goals and governance in the oil funds of Kazakhstan and Azerbaijan. *Comparative Economic Studies*, *48*(4), 583-613.
Kemme, David M. (2011). Sovereign wealth fund issues and the national fund(s) of Kazakhstan. *University of Memphis*.
Kolstad, I., & Wiig, A. (2009a). Is transparency the key to reducing corruption in resource-rich countries?. *World Development*, *37*(3), 521-532.
Kolstad, I., & Wiig, A. (2009b). It's the rents, stupid! The political economy of the resource curse. *Energy policy*, *37*(12), 5317-5325.
Kopits, G., & Craig, J. D. (1998). Transparency in government operations (No. 158). *International monetary fund*. Washington, DC
Lederman, D. & Maloney, W. (2007) Natural resources: Neither curse nor destiny. *Stanford University Press and the World Bank*. Washington D.C
Leite, C. A., & Weidmann, J. (1999). Does mother nature corrupt? Natural resources, corruption, and economic growth. *IMF Working Paper*, (99/85).
Lor, P. J. (2012). International and comparative librarianship: a thematic approach. Chapter 4 - Methodology in Comparative Studies. *De Gruyter Saur*.
Lücke, M. (2010). Stabilization and savings funds to manage natural resource revenues: Kazakhstan and Azerbaijan vs. Norway. *Kiel Institute for the World Economy*. no. 1652
Luong, P. J., & Weinthal, E. (2010). Oil is not a curse: Ownership structure and institutions in Soviet successor states. *Cambridge University Press*.

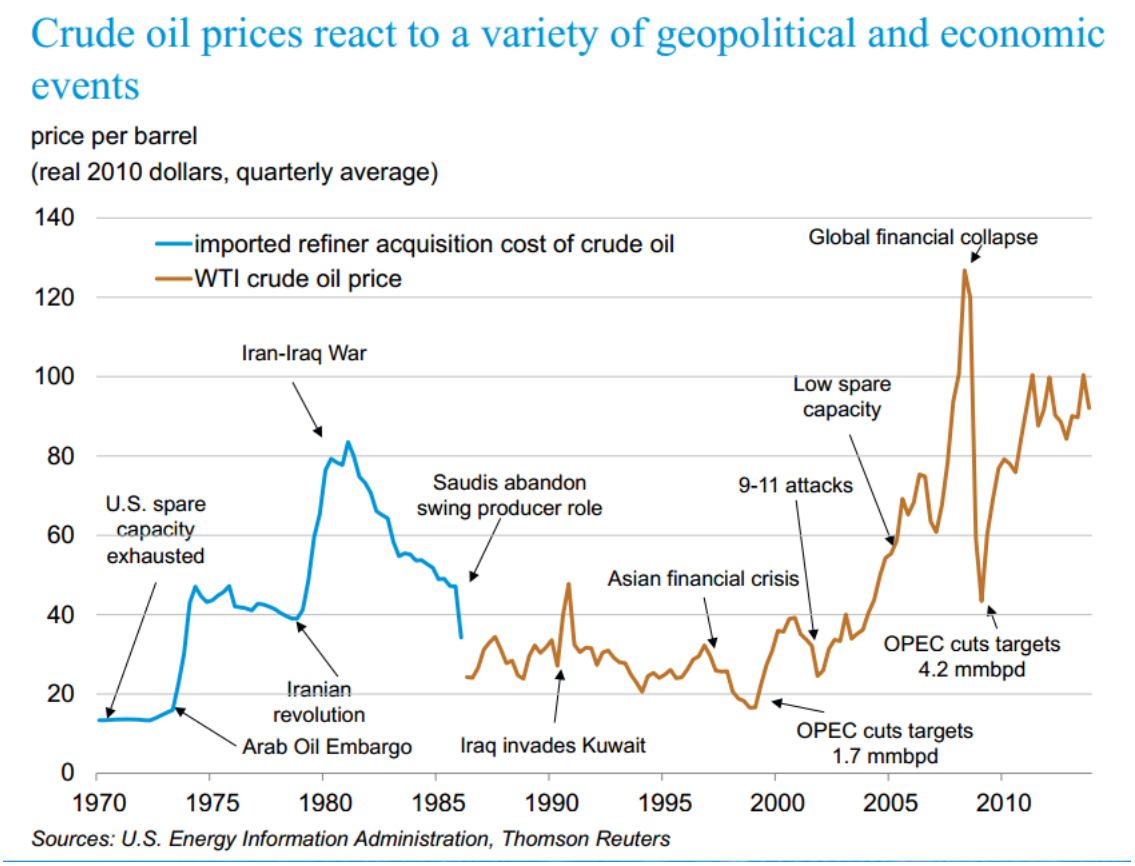
Luong J., P. (2010). Beyond "resource nationalism" - implications of state ownership in Kazakhstan's petroleum sector. *PONARS Eurasia Policy Memo No. 98*. Brown University.
Mauro, P. (1995). Corruption and growth. *The quarterly journal of economics*, 110(3), 681-712.
Mauro, P. (2004). The persistence of corruption and slow economic growth. *IMF staff papers*, 1-18.
Medas, P. A., & Zakharova, D. (2009). A primer on fiscal analysis in oil-producing countries. *International Monetary Fund*.
Mehlum, H., Moene, K., & Torvik, R. (2006). Institutions and the resource curse. *The Economic Journal*, 116(508), 1-20.
Ministry of Finance of the Republic of Kazakhstan (2014) Annual reports for the NFRK 2001-2012. Retrieved 03.03.2014. URL: http://www.minfin.gov.kz/irj/portal/anonymous?NavigationTarget=ROLES://portal_content/mf/kz.ecc.roles/kz.ecc.anonymous/kz.ecc.anonymous/kz.ecc.anonym_budgeting/budgeting/national_fund_fldr/reposrt_of_fund_fldr
Ministry of Petroleum and Energy (2013a). Norway's oil history in 5 minutes. Retrieved 21.02.2014. URL: http://www.regjeringen.no/en/dep/oed/Subject/oil-and-gas/norways-oil-history-in-5-minutes.html?id=440538
Ministry of Petroleum and Energy (2013b). Presentation by Ola Borten Moe "The Norwegian Model - evolution, performance and benefits*"*. Retrieved 24.02.2014. URL: http://sener.gob.mx/Experiencia_Noruega_Materia_Petrolera/res/2congreso/The_Norwegian_Model-%20Evolution_performance_and_benefits.pdf
Mo, P. H. (2001). Corruption and economic growth. *Journal of Comparative Economics*, 29(1), 66-79.
Mir-Babayev, M. (2002). Azerbaijan's oil history: A chronology leading up to the Soviet Era. *Azerbaijan International*. Pages 34-40
New Internationalist Magazine (2013). Azerbaijan's pompous kleptocrat. Retrieved 08.05.2014. URL: http://newint.org/columns/worldbeaters/2013/01/01/worldbeater-azerbaijan-ilham-aliyev/
Norges Bank (2014). The Executive Board. Retrieved 21.05.2014. URL: http://www.norges-bank.no/en/about/organisation/executive-board/
Norges Bank Investment Management (2014). Annual reports for the Norwegian Government Pension Fund Global year 2000-2013. Retrieved: 17.03.2014URL: http://www.nbim.no/en/transparency/reports/
North, D. C. (1991). Institutions, ideology, and economic performance. *Cato Journal*, vol. 11, 477.
Norwegian Petroleum Directorate (2010). Government petroleum revenues. Retrieved 23.05.2014. URL: http://www.npd.no/en/Publications/Facts/Facts-2010/Chapter-3/
Ogunleye, E. K. (2008). Natural resource abundance in Nigeria: From dependence to development. *Resources Policy* 33(3): 168-174.
Perry, A (2010). Brief history: The Resource curse. *Time Magazine.* Retrieved at http://content.time.com/time/magazine/article/0,9171,1997460,00.html
Plourde, A., & Watkins, G. C. (1998). Crude oil prices between 1985 and 1994: how volatile in relation to other commodities? *Resource and Energy Economics*, 20(3), 245-262.
Regjeringen (2014). Norway and the EITI. Retrieved 22.05.2014. URL: http://www.regjeringen.no/en/sub/eiti---extractive-industries-tranparency/les-mer/norway-and-eiti.html?id=634673

Revenue Watch Institute (2012). Azerbaijan: Transparency snapshot. Retrieved 20.05.2014. URL: http://www.revenuewatch.org/countries/eurasia/azerbaijan/transparency-snapshot
Revenue Watch Institute (2013). Fund profiles. Synopsis of Kazakhstan, Norway, and Azerbaijan. Retrieved 24.04.2014. URL: http://www.revenuewatch.org/natural-resource-funds.
Revenue Watch Institute (2014). Kazakhstan country overview. Retrieved 14.05.2014. URL: http://www.revenuewatch.org/countries/eurasia/kazakhstan/overview
Ronald Coase Institute (2014). About new institutional economics. Retrieved 14.03.2014. URL: https://www.coase.org/newinstitutionaleconomics.htm
Sachs, J. D., & Warner, A. M. (1995). Natural resource abundance and economic growth (Working paper no.5398). *National Bureau of Economic Research*.
Sachs, J. D., & Warner, A. M. (1997). Natural resource abundance and economic growth *Harvard University, (Working Paper*), revised version.
Sachs, J. D., & Warner, A. M. (2001). The curse of natural resources. *European economic review*, 45(4), 827-838.
Sachs, J. D. (2007). How to handle the macroeconomics of oil wealth. In: Humphreys, M., Sachs, J. D. & Stiglitz, J. E. eds. Escaping the Resource Curse. *New York: Columbia University Press*, p.173-193.
Sala-i-Martin, X., & Subramanian, A. (2003). Addressing the natural resource curse: An illustration from Nigeria (No. w9804). *National Bureau of Economic Research*.
Samruk-Kazyna (2014). About the fund. Retrieved 20.02.2014. URL: http://sk.kz/page/kratko-o-fonde
Sarel, M. (1996). Growth in East Asia. What we can do and what we cannot infer. *IMF Economic Issues no. 1*. Retrieved. 04.04.2014, URL: http://www.imf.org/external/pubs/ft/issues1/
Shaxson, N. (2007). Oil, corruption and the resource curse. *International Affairs*, *83*(6), 1123-1140.
SOFAZ (2014). State Oil Fund of the Republic of Azerbaijan. Retrieved 02.05.2014. URL: http://www.oilfund.az/en_US/about_found/meqsed-ve-felsefe.asp
Sovereign Wealth Fund Institute (2012). Profile: Norwegian Government Pension Fund Global (Norway). *The Fletcher School Tufts University*.
Sovereign Wealth Fund Institute (2014). National Investment Corporation of National Bank of Kazakhstan. Retrieved 23.02.2014. URL: http://www.swfinstitute.org/swfs/nic-kazakhstan/
Statistisk Sentralbyrå (2014). Folkemengden. *SSB*. Retrieved 20.05.2014. URL: https://www.ssb.no/befolkning/statistikker/folkemengde
Stevens, P., Dietsche, E. (2007). Resource curse: An analysis of causes, experiences and possible ways forward. *Energy Policy*. 56–65
Sturm, M., Gurtner, F., & Alegre, J. G. (2009). Fiscal policy challenges in oil-exporting countries–a review of key issues (No. 104). *European Central Bank*.
Sugawara, N. (2014). From Volatility to stability in expenditure; stabilization funds in resource-rich countries. *IMF Working Paper*. WP/14/43
Teune, H., & Przeworski, A. (1970). The logic of comparative social inquiry. *Joh Wiley & Sons*. New York
Thurber, M. C., Hults, D. R., & Heller, P. R. (2011). Exporting the "Norwegian Model": The effect of administrative design on oil sector performance. *Energy Policy*, *39*(9), 5366-5378.
Tornell, A. and Lane, P. (1999). The Voracity Effect. *The American Economic Review* 89(1): 22–46.

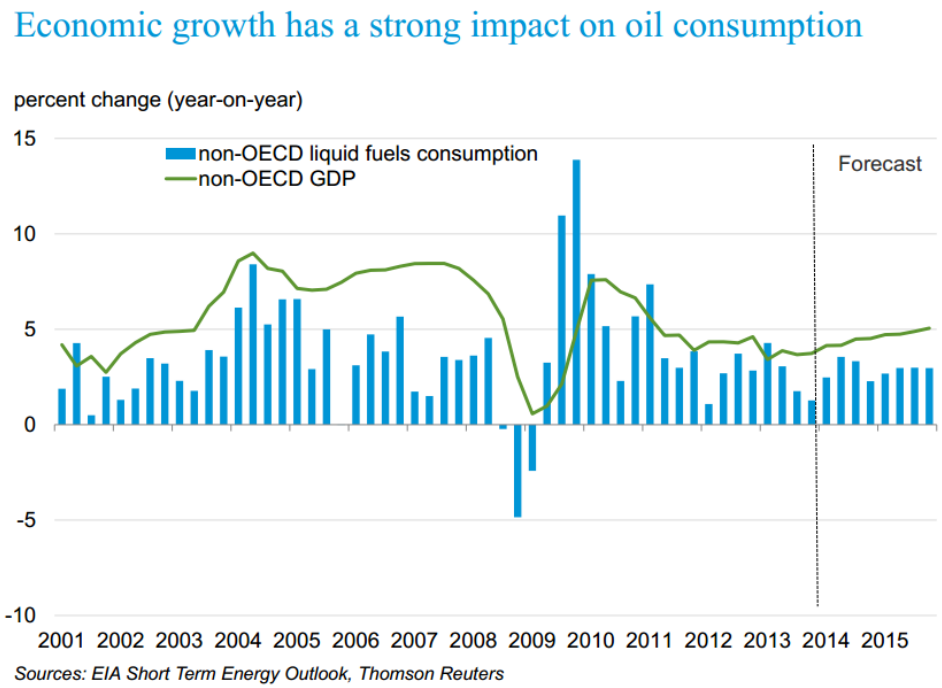
Transparency International (2014). Corruption Perception Index. Retrieved 18.03.2014. URL: http://www.transparency.org/
Tsani, S. (2013). Natural resources, governance and institutional quality: The role of resource funds. *Resources Policy*, 38(2), 181
UPI (2009). ACG oil field world's third largest. Retrieved 08.05.2014. URL: http://www.upi.com/Business_News/Energy-Resources/2009/08/20/ACG-oil-field-worlds-third-largest/UPI-82561250784669/
Waal, T. (2013). What lies ahead for Azerbaijan? *Carniege Endowment for International Peace*. Retrieved 13.05.2014. URL: http://carnegieendowment.org/2013/10/07/what-lies-ahead-for-azerbaijan/gpd3
Wagner, G. A., & Elder, E. M. (2005). The role of budget stabilization funds in smoothing government expenditures over the business cycle. *Public Finance Review*, *33*(4), 439-465.
Wallwork, L. (2013). A tale of two giants: SOFAZ, SOCAR and the EITI in Azerbaijan. *Open Oil*. Retrieved 15.05.2014. URL: http://openoil.net/2013/03/27/a-tale-of-two-giants-sofaz-socar-and-the-eiti-in-azerbaijan/
Williams, A. (2011). Shining a light on the resource curse: An empirical analysis of the relationship between natural resources, transparency, and economic growth. *World Development*, 39(4), 490-505.
World Bank (2013a). GDP per capita (current US$). Retrieved. 19.05.2014. URL: http://data.worldbank.org/indicator/NY.GDP.PCAP.CD
World Bank (2013b). GDP per capita growth (annual %). Retrieved 19.05.2014. URL: http://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG
World Bank (2013c). World Bank Governance Indicators, 2013 Update. Full dataset. Retrieved 14.05.2014. URL: http://info.worldbank.org/governance/wgi/pdf/wgidataset.xlsx
World Bank (2014). Country profiles. Retrieved 06.02.2014. URL: http://www.worldbank.org/en/country
Yin, R. K. (2009). Case study research: Design and methods. Fourth edition. *Sage publication Inc*.

APPENDICES

APPENDIX 1: GEOPOLITICAL AND ECONOMIC EVENTS THAT DETERMINE OIL PRICES



APPENDIX 2: ECONOMIC GROWTH ON OIL CONSUMPTION



APPENDIX 3: CALCULATION OF PETROLEUM TAX IN NORWAY

Operating income (norm price)
- Operating expenses
- Linear depreciation for investments (6 years)
- Exploration expenses, R&D and decommisioning
- CO_2-tax, NO_X-tax and area fee
- Net financial costs

= Corporation tax base (tax rate: 28 %)
– Uplift (7,5 % of investment for 4 years)

= Special tax base (tax rate: 50 %)

APPENDIX 4: LINABURG-MADUELL TRANSPARENCY INDEX

Principle	Point	Principles of the Linaburg-Maduell Transparency Index
1	+1	Fund provides history including reason for creation origins of wealth, and government ownership structure
2	+1	Fund provides up-to-date independently audited annual reports
3	+1	Fund provides ownership percentage of company holdings, and geographic locations of holding
4	+1	Fund provides total portfolio market value, returns, and management compensation
5	+1	Fund provides guidelines I n reference to ethical standards, investment policies, and enforcer of guidelines
6	+1	Fund provides clear strategies and objectives
7	+1	If applicable, the fund clearly identifies subsidiaries and contact information
8	+1	If applicable, the fund identifies external managers
9	+1	Fund manages its own website
10	+1	Fund provides main office locations and contact information, such as telephone and fax

APPENDIX 5: QUESTIONS AND RAW TRUMAN SCORES FOR 2012

TRANSPARENCY AND ACCOUNTABILIT Y

Investment Strategy Implementation

16. Do regular reports on investments by the SWF include information on the **categories** of investments? (p)
17. Does the strategy use **benchmarks**? (p)
18. Does the strategy use **credit ratings**? (p)
19. Are the holders of investment **mandates identified**? (p)

Investment Activities

20. Do regular reports on the investments by the SWF include the **size** of the fund? (p)
21. Do regular reports on the investments by the SWF include information on its **returns**? (p)
22. Do regular reports on the investments by the SWF include information on the geographic **location** of investments? (p)
23. Do regular reports on the investments by the SWF include information on the **specific investments**? (p)
24. Do regular reports on the investments by the SWF include information on the **currency composition** of investments? (p)

Reports

25. Does the SWF provide at least an **annual report** on its activities and results? (p)
26. Does the SWF provide **quarterly reports**? (p)

Audits

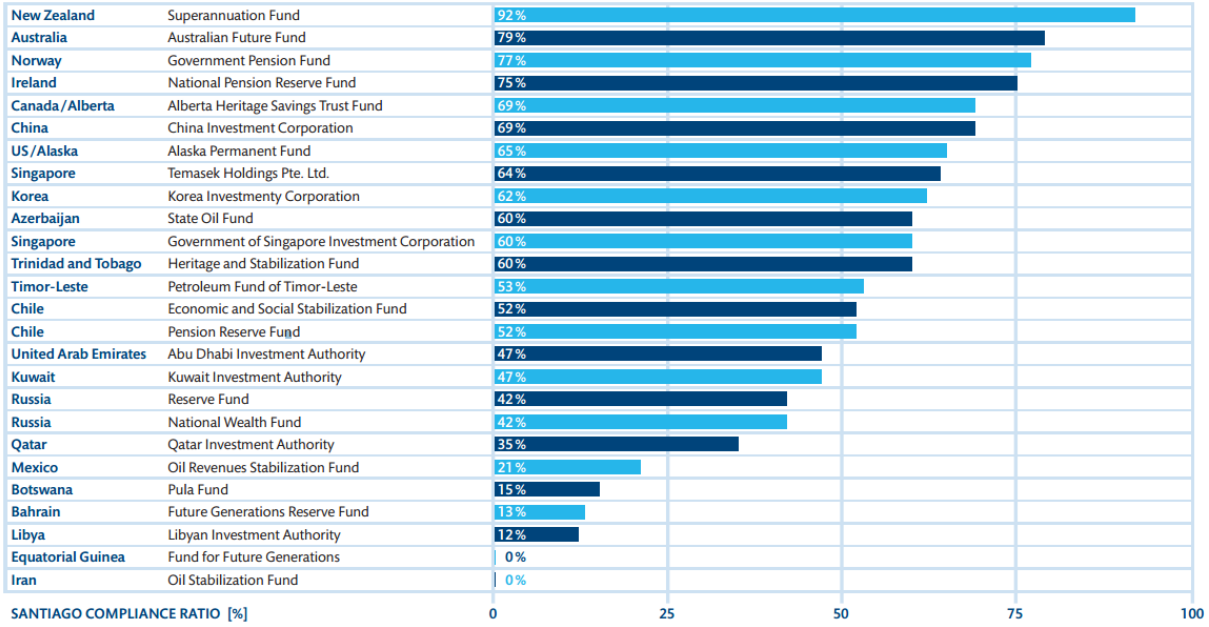
27. Is the SWF subject to a **regular** annual **audit**? (p)
28. Does the SWF **publish** promptly the **audits** of its operations and accounts? (p)
29. Are the **audits independent**? (p)

		16	17	18	19	20	21	22	23
Country	Fund	Categories	Benchmarks	Credit ratings	Mandates	Size	Returns	Locations	Specific investments
Azerbaijan	State Oil Fund	1	1	1	1	1	1	0.5	0.5
Kazakhstan	National Fund	0.5	1	1	0	1	1	0.25	0
Norway	Government Pension Fund-Global	1	1	1	1	1	1	1	1

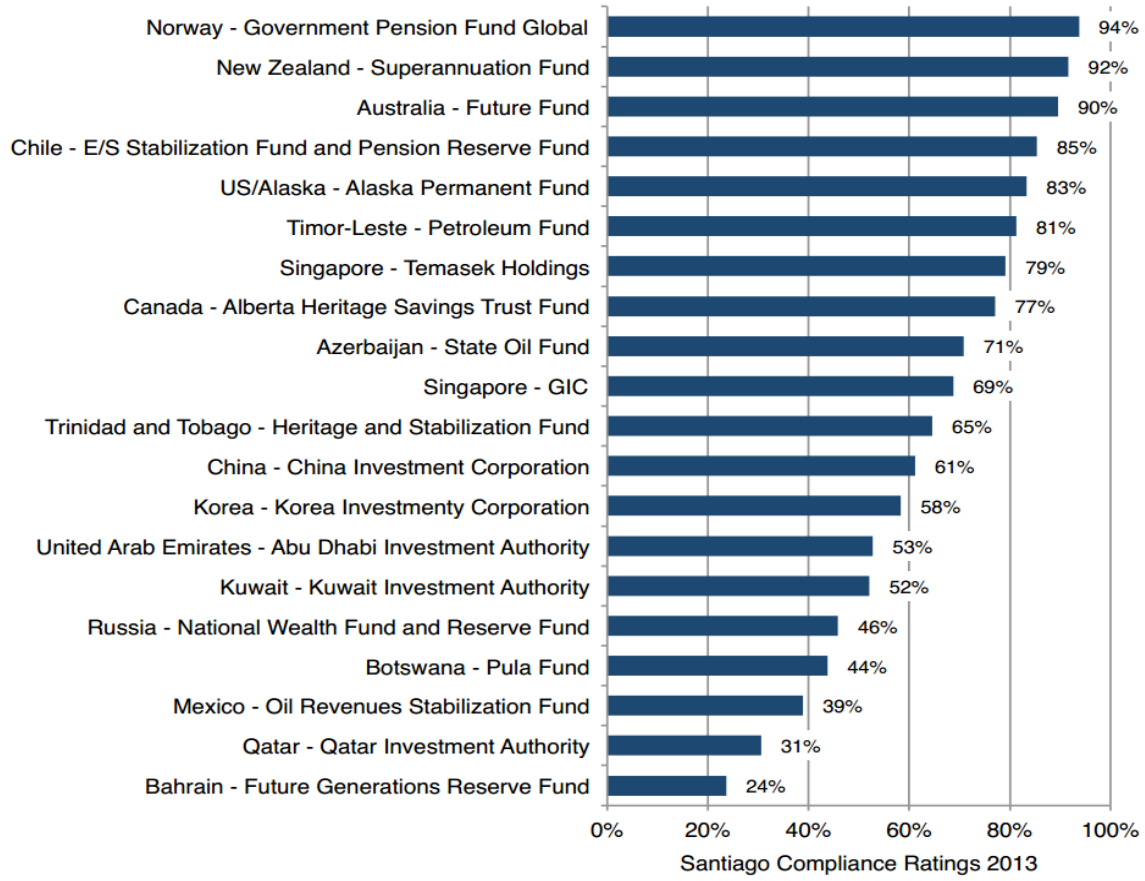
		24	25	26	27	28	29	
Country	Fund	Currency composition	Annual reports	Quarterly reports	Regular audits	Published audits	Independent audits	Subtotal
Azerbaijan	State Oil Fund	1	1	1	1	1	1	13.00
Kazakhstan	National Fund	0.25	0.5	0.5	1	1	1	9.00
Norway	Government Pension Fund-Global	1	1	1	1	1	1	14.00

APPENDIX 6: SANTIAGO COMPLIANCE INDEX 2011 AND 2013

Santiago Compliance Index 2011



Santiago Compliance Index 2013



APPENDIX 7: NFRK REVENUES AND EXPENDITURES BY CATEGORY